textile bulletin

AUGUST • 1956

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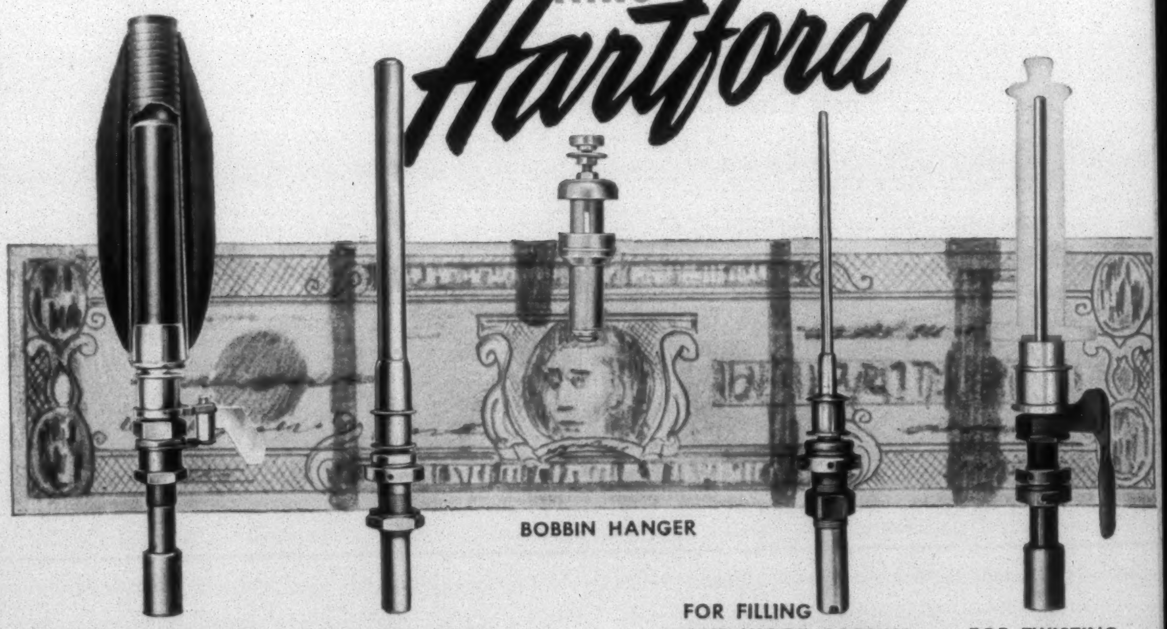
HMS Hartford



Pre-Lubricated BALL BEARING Spindles

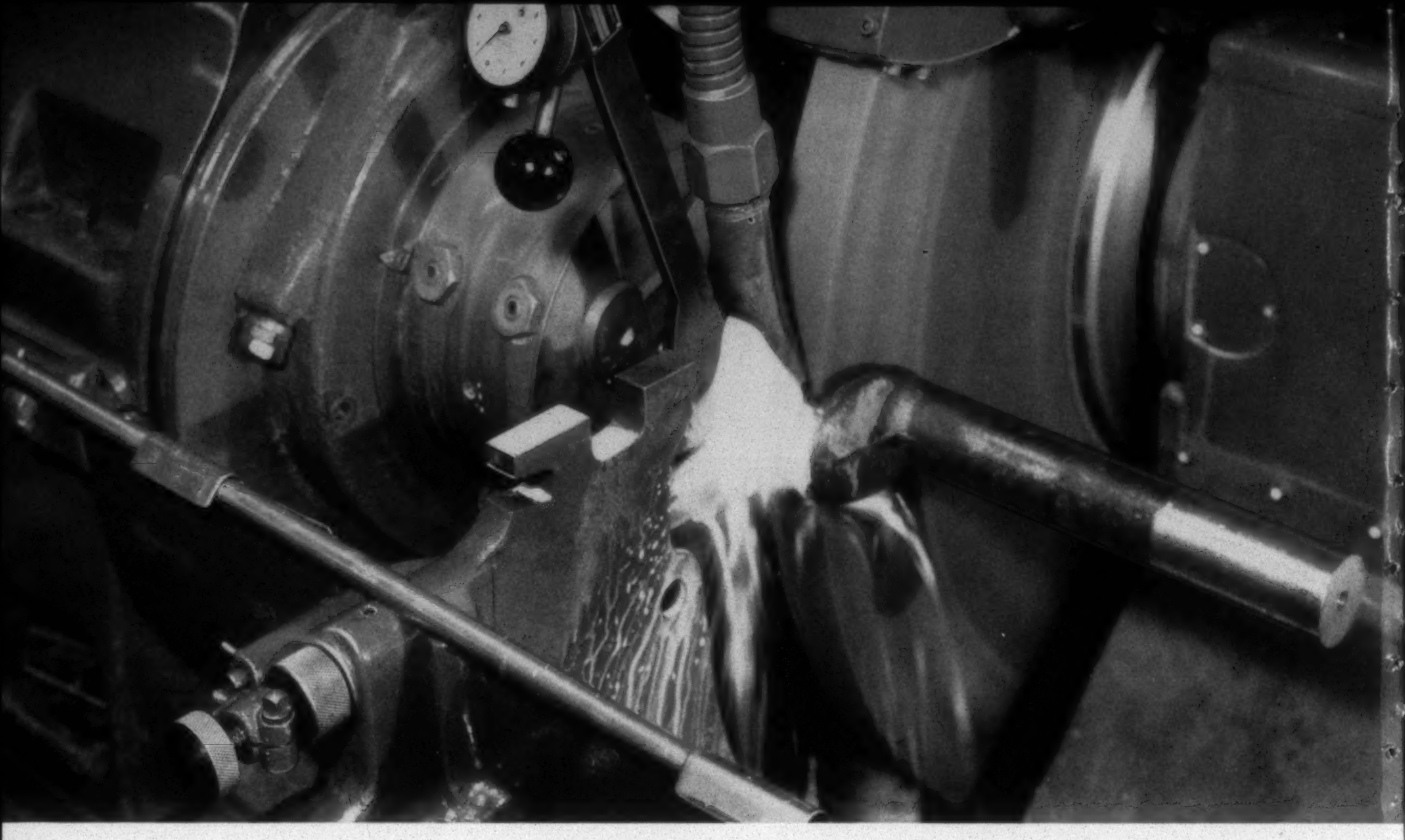
100% AMERICAN ENGINEERED MANUFACTURED AND SERVICED

For $avings

WHEN YOU BUY AND WHEN IN OPERATION

NO LUBRICATION FOR (EST.) 5 YEAR

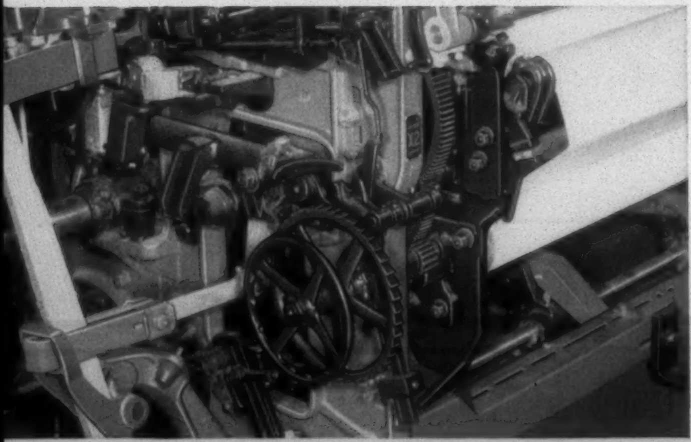
THE HARTFORD MACHINE SCREW CO.
DIVISION OF STANDARD SCREW COMPANY
HARTFORD 2, CONNECTICUT
SOUTHERN DIVISION—ROUTE 3, BOX 314, GREENVILLE, S. C.



NOW . . . "MICRO-FINISHED" LOOM CRANK SHAFTS

"Micro-Finished" Loom Crank Shafts, a product of Draper Corporation, assure you of improved loom performance. New manufacturing methods and special machinery result in a superior crank shaft—*with a higher degree of accuracy and uniformity.*

DRAPER
CORPORATION
HOPEDALE, MASS.
ATLANTA, GA. GREENSBORO, N. C. SPARTANBURG, S. C.

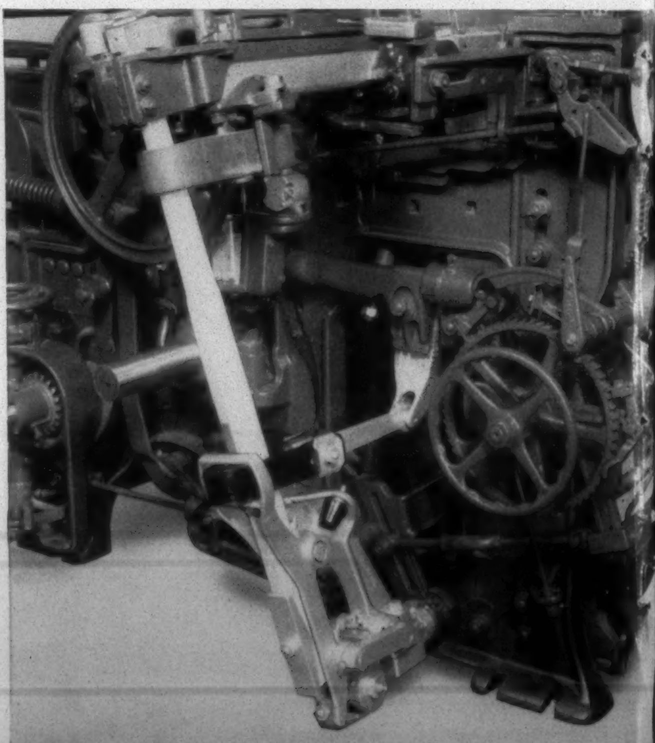


HIGH ROLL RATCHET TAKE-UP for X-2 increases loom versatility

Each Crank Shaft, like all Draper products, is manufactured to give longer, trouble-free service.

Whatever your loom requirement, when you specify Draper, increased loom efficiency, production, and profits will result.

LINKAGE PARALLEL ASSEMBLY improves loom operation—cuts maintenance cost

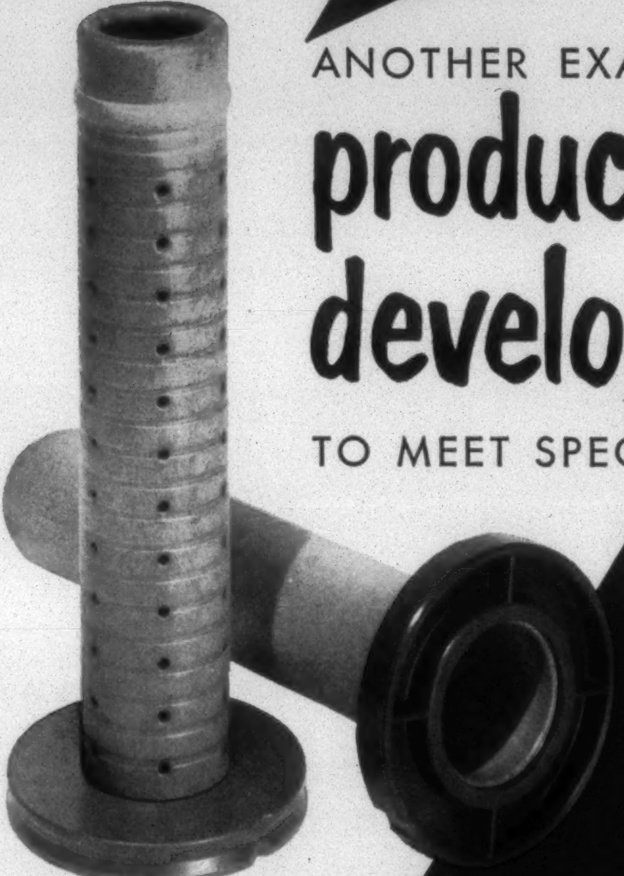


REPORT FROM SONOCO

ANOTHER EXAMPLE OF

product development

TO MEET SPECIFIC NEEDS



Synthetic Yarn Carrier

Now . . . from SONOCO, a top-notch plastic base, fibre barrel carrier for synthetic yarns. This was originally developed for Fiberglas. With base and barrel modifications, it is adaptable for other yarns. Barrel can be plain, perforated, prick punched, sized, flocked and made with raised or indented scores. Plastic base supplied in various colors for identification.

If you have a carrier problem—consult your SONOCO sales-engineer or write us direct. We are eager to assist you with your production difficulties and our technical facilities are at your service.

VISIT OUR SPACE
BOOTH 244
SOUTHERN TEXTILE EXPOSITION
Greenville, S. C.

SONOCO
SERVES THE WORLD
PAPER CARRIERS
REG. U.S. PAT. OFF

SONOCO
PRODUCTS COMPANY

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LONGVIEW, TEXAS • PHILADELPHIA, PA. • LOS ANGELES, CAL.
GRANBY, QUEBEC • BRANTFORD, ONT. • MEXICO, D. F.

DEPENDABLE SOURCE OF SUPPLY

Mill installation of Whitin Pacemaker Twisters

WHITIN *Pacemaker* TWISTERS

...they lead the field in Production, Performance and Quality

Whitin Pacemaker Twisters have established unsurpassed performance records for their high production, quality of yarn, minimum maintenance and operating costs. For cotton and spun synthetic yarns, they are available in 3″- 6″ gauge, with traverses up to 9″, 2½″- 4½″ rings. Their notable features are:

- **Front bottom roll arrangement to provide a yarn path that is in almost vertical line from bottom of front roll to the guide.**
- **Laminated bakelite gears meshing with metal gears in the head end, for noise reduction and long wear.**
- **Spring counterbalanced ring rail.**
- **Spring weighted anti-friction tape tension pulleys.**

Also available

- **Steel pulleys on continuous drive shaft for spindle drive.**
- **Slotted ring rails for full length stationary separator blades.**
- **Stationary guide rod behind spindles for supporting ring rail traversing mechanism which prevents contamination of yarn when ends are down.**
- **Ball bearing or roller bearing spindles.**

Write today for our folder giving detailed information

Whitin MACHINE WORKS

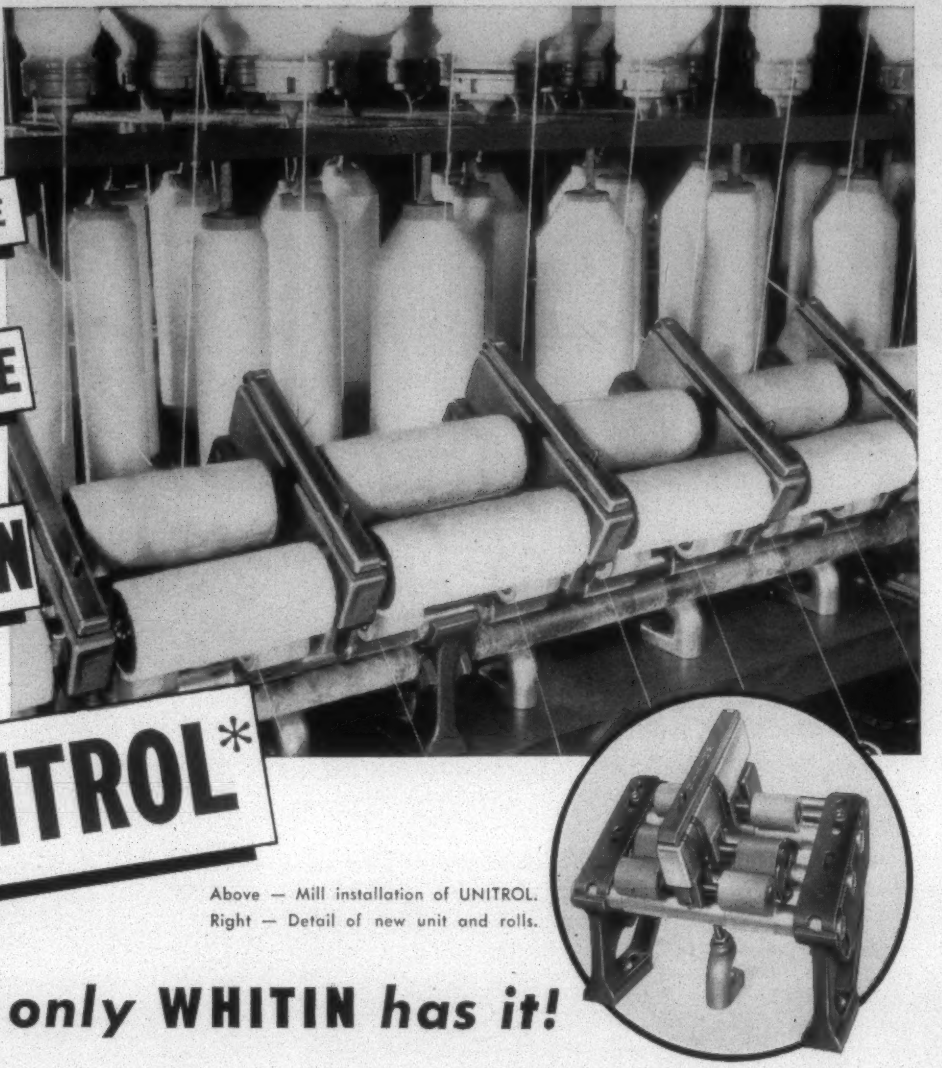
WHITINSVILLE, MASSACHUSETTS
CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

it's SIMPLE

it's ACCURATE

it's CLEAN

it's UNITROL*



Above — Mill installation of UNITROL.
Right — Detail of new unit and rolls.

. . . and only WHITIN has it!

Whitin's new UNITROL** Center Suspension Weighting Unit and new top rolls for spinning provides maximum performance and yarn quality combined with new lows in cleaning, maintenance, lubrication and spinning costs. It is standard on Whitin spinning frames and available for changeovers. UNITROL has been thoroughly tested in large mill installations.

- **True precision construction**
- **Pre-set internal spring weighting**
- **No levers, saddles or dead weights**
- **Picking reduced 95%**
- **Run out — .001" or less**
- **Whitin anti-friction front rolls; non-lubricated middle and back rolls — all new in design**
- **Complete lint exclusion and grease retention**
- **Smoothly streamlined**

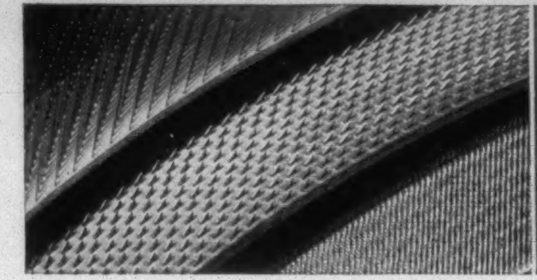
* New Center Suspension Weighting Unit and New Top Rolls for Spinning

Write today for complete information

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS
CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, N. C. • DEXTER, ME.

** TRADE MARK



Ashworth Tips ON CARDING

No. 32 in a Series

FILLET CLOTHING *vs.* PLUGS AND TACKS

Unfortunately in many instances little or no attention has ever been given to the importance of using the correct plugs and tacks when applying fillet clothing.

All card cylinders and doffers are taper drilled; and unfortunately, no standards as to hole size and degree of taper were ever adopted for any prolonged period.

It is to your best interests to make a study of this and have on file, available for ready reference, the complete history on size and taper of plugs required for the cards in your mill. When ordering replacements, establish a practice of sending samples and then double checking on receipt of the shipment to be certain that you received plugs exactly to your sample.

Prior to applying new fillet clothing, plugs should be carefully inspected on both cylinders and doffers, and those that are oil soaked or damaged in any way should be drilled out and replaced with new plugs. Shoe pegs should be driven in the tack holes of the plugs that are left in.

On the various models of card produced by Saco-Lowell Shops, beginning with the old Pettee Machine Works and carrying through to their 1956 models, you will find various sizes of plugs; and even on some models, the holes on the selvages of the cylinders will differ from the holes in the cross rows, necessitating the use of two sizes of plugs on the same cylinder. On still other models, solid plugs are used. So in the case of old and new cards produced by the present Saco-Lowell Shops, it is almost imperative that samples be submitted. The Whitin card uses a special size plug, the H. & B. a special size doffer plug.

When replacing plugs on either edge of cylinders, be certain that the part that projects beyond the cylinder thickness is cut off flush with the under side of the cast iron cylinder. If such plugs are left uncut, you will soon have a raised fillet due to chokes in the sides of the cards knocking these plugs up.

It is also vitally important to use the correct size of tacks on both cylinder fillets and doffer fillets. These are more or less standard items with the card clothing manufacturers. The diameter of the head and length of leg are designed particularly for use with fillet card clothing; and tacks of the correct specifications can only be obtained from card clothing manufacturers.

ASHWORTH BROS., INC.

American Card Clothing Co. (Woolen Division)

Fall River*†‡ Worcester‡ Philadelphia*†‡ Atlanta†‡
Greenville*†‡ Charlotte†‡ Dallas†‡ (Textile Supply Co.)
E. G. Paules, Representative — Los Angeles, Calif.
*Factory †Repair Shop ‡Distributing Point
3 Factories • 6 Repair Shops • 7 Distributing Points

PRODUCTS AND SERVICES

Clothing for Cotton, Wool, Worsted, Silk, Synthetic Fibre and Asbestos cards and for All Types of Napping Machinery. Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire. Lickerins and Topflats Reclothed.

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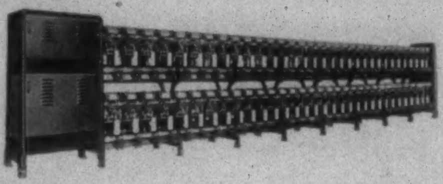
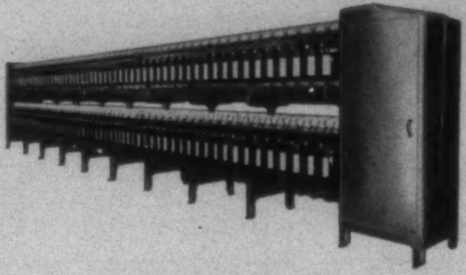
Ashworth PIONEERS IN CARD CLOTHING

3 FACTORIES • • • 6 REPAIR SHOPS • • • 7 DISTRIBUTING POINTS



U. S. ACME FACE DRIVE TWISTER

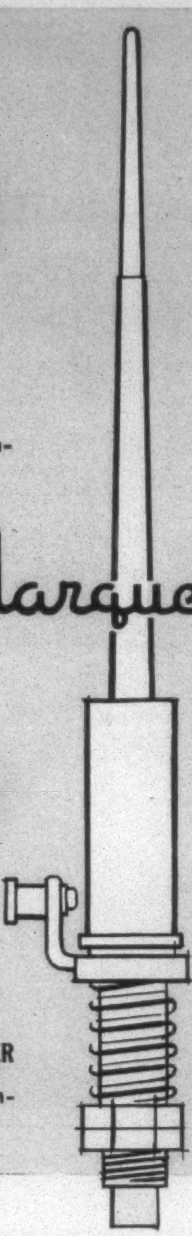
16 oz. to 24 oz. packages—with spindle speeds up to 14,500 r. p. m.

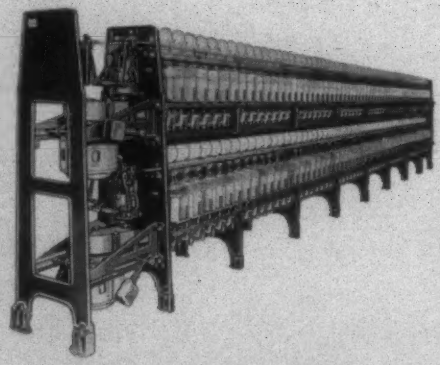


U. S. ACME COMBO DOUBLE DECK TWISTER

8 oz. to 32 oz. packages—with spindle speeds up to 14,500 r. p. m.

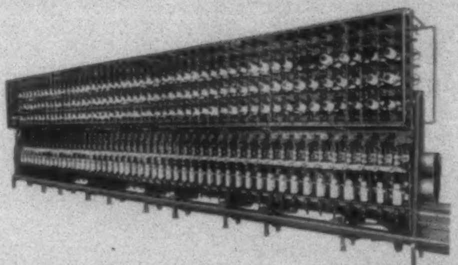
1,500,000 Marquette SPINDLES...





U. S. ACME DOUBLE DECK JUMBO TWISTER

8 oz. to 16 oz. packages—with spindle speeds up to 12,500 r. p. m.



U. S. ACME DOUBLER TWISTER

16 oz. to 32 oz. packages—with spindle speeds up to 7,000 r. p. m.

...have been sold as standard equipment on U. S. ACME THROWING FRAMES

More than one and a half million Marquette Roller Bearing Spindles have been furnished as original equipment on frames manufactured by U. S. Textile Machine Co. They are operating efficiently at high speeds with heavy packages, and giving important savings in power and maintenance.

There is a Marquette Spindle for spinning or twisting every type of yarn—cotton, synthetics, wool and worsted—and for all sizes of packages up to 12 lb. gross load. On *any* frame, new or old, Marquette Spindles will help you produce *more yarn* at *lower cost.*

We'll be glad to arrange a test installation to prove the many advantages of Marquette Spindles in *your* mill. Contact our home office or one of our representatives.

Representatives: WILLIAM P. RUSSELL, BOX 778, ATLANTA, GA.
C. H. WHITE, MOUNT HOLLY RD., ROUTE 6, CHARLOTTE, N. C.
R. MICHAEL TURNER, 100 CHESTNUT STREET, CLINTON, S. C.

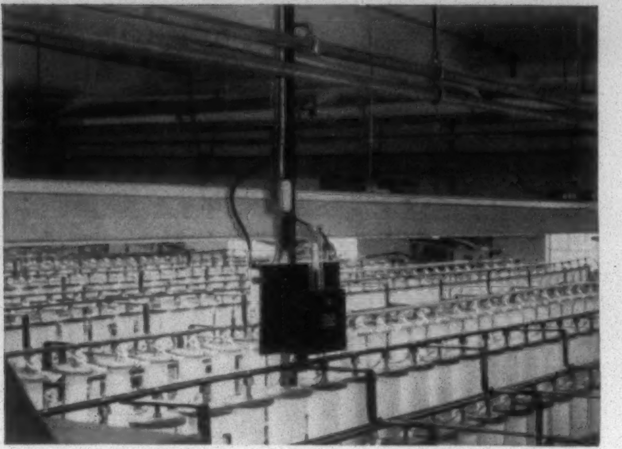
MARQUETTE METAL PRODUCTS DIVISION
CURTISS-WRIGHT
CORPORATION • CLEVELAND 10, OHIO

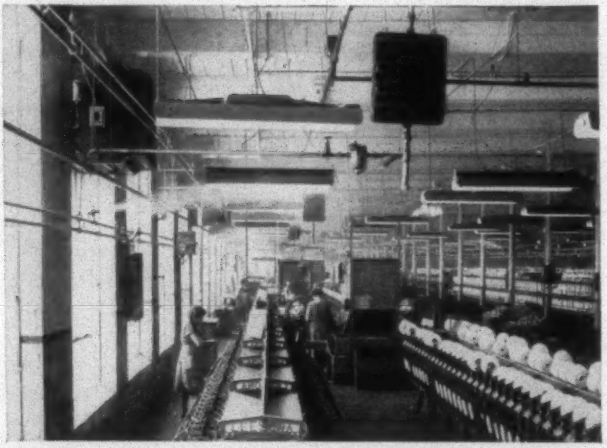
Other Marquette Products: SPRING CLUTCHES
HYDRAULIC GOVERNORS • AIRCRAFT WINDSHIELD WIPERS
ROTARY OIL PUMPS • PRECISION PARTS AND ASSEMBLIES

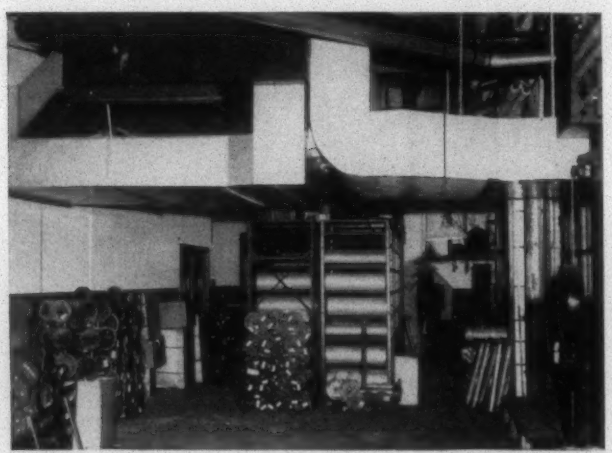
There's an AMCO AIR CONDITIONING SYSTEM designed for YOU!

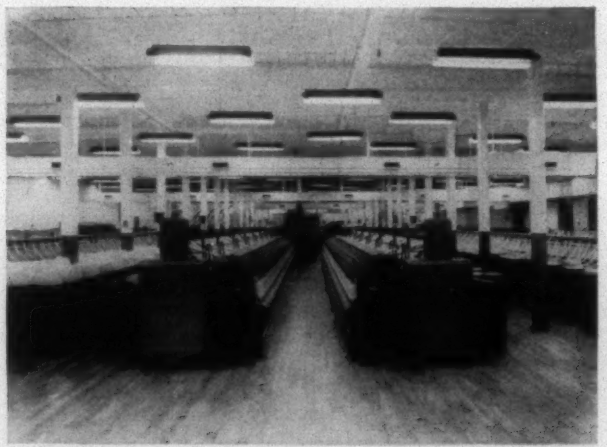
When you think of air conditioning, remember that AMCO offers systems and equipment for every manufacturing requirement and every climatic condition. There are four different types of AMCO systems, alone or in combination: humidification, evaporative cooling, unit dry-duct, or central station air conditioning. And because AMCO engineers have these four basic systems — plus all associated equipment and controls — they are able to offer you unbiased advice on the *best* system for your particular need.

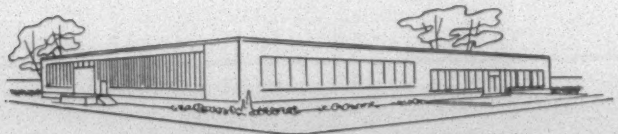
If you want the facts about textile mill air conditioning, with the advantages and limitations of each system detailed, as well as answers to such questions as cost, adaptability, capacity, maintenance and operating expense, write for AMCO's booklet, "AIR CONDITIONING for the TEXTILE INDUSTRY". Or better still, ask AMCO to recommend, without obligation, the system best suited to your mill.


AMCO Humidification System installed at Caron Spinning Company, Robesonia, Pa. The highly sensitive AMCO Cyclestat Control holds humidity within narrow limits.


AMCO Evaporative Cooling System in Texas Textile Mills, McKinney, Texas. Note window units which control mixture of fresh and recirculated air.


AMCO Unit Dry-Duct System at The Windsor Manufacturing Company, Philadelphia, Pa. The entire unit is installed overhead out of the way.

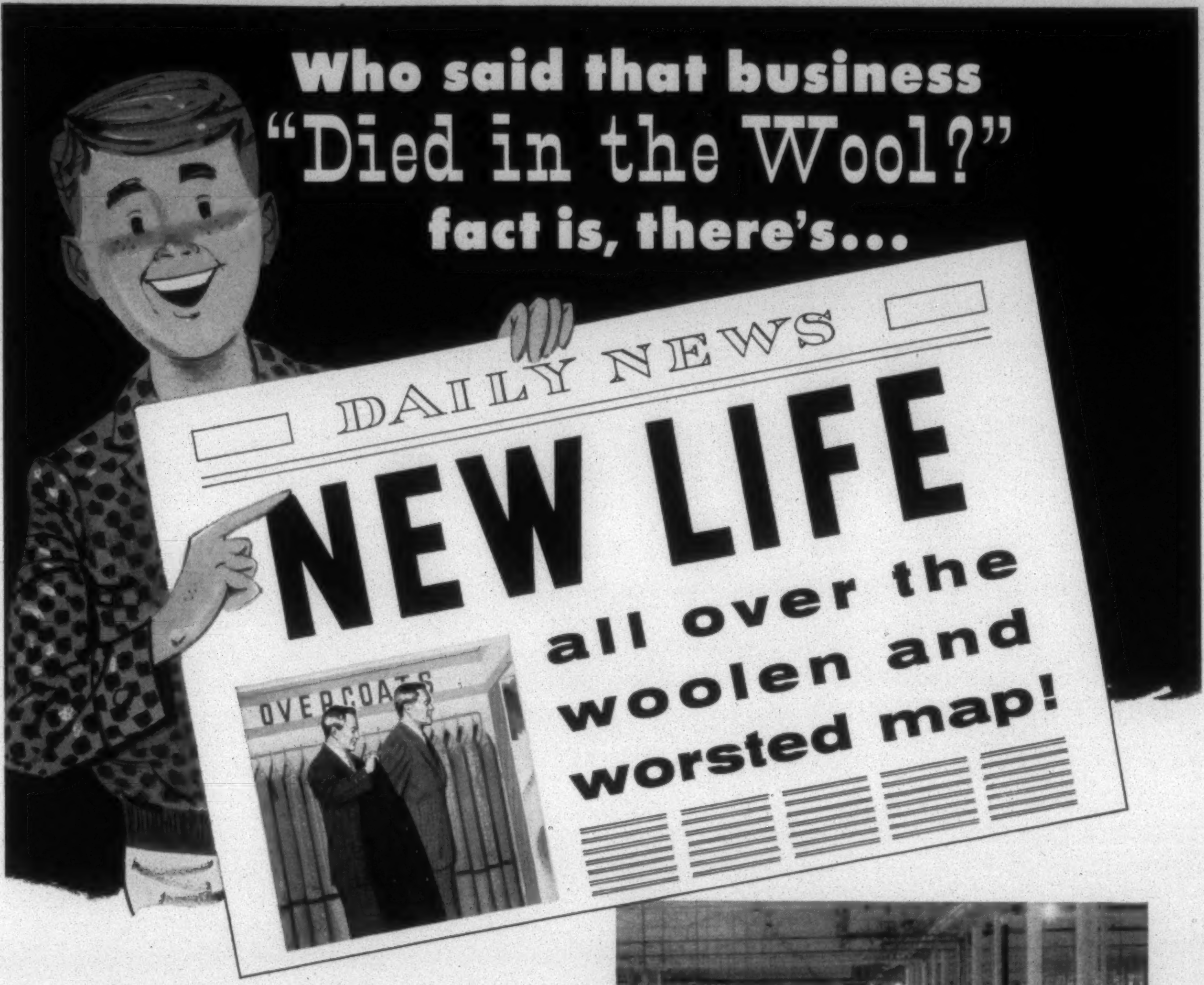

AMCO Central Station Air Conditioning in the Roving Dept., Highland Park Mills, Charlotte, N. C. This is AMCO's highly efficient split-system.

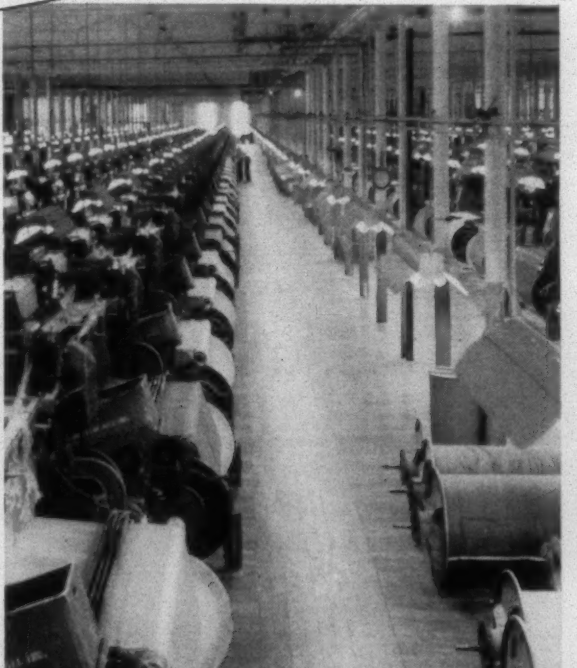

New Cleveland-Rowan Plant of the American Moistening Company. This modern plant is located at Cleveland, N. C. for the fabrication of duct work and sheet metal products.

AMCO

AIR CONDITIONING SYSTEMS since 1888

AMERICAN MOISTENING COMPANY, CLEVELAND, NORTH CAROLINA • ATLANTA, GA. • BOSTON, MASS. • CAMDEN, N. J. • PROVIDENCE, R. I.





TOP OF THE NEWS right now is the sudden build-up in wool business which . . . like most new trends . . . comes unexpectedly out of a not-so-clear sky.

And this is *good* news to mills that stand protected with C&K's W3 or W3A Woolen Looms equipped with the exclusive SELECT-A-PIC feature. They're ready for whatever the demands of fashion may bring . . . ready for *full automatic weaving* on many woolen and worsted fabrics that *can't* be woven automatically on any other equipment.

Is the good news in wool good news to *you?* If not, see C&K today about the new SELECT-A-PIC Looms you need to put you in the running for new profits *right now*.

CROMPTON & KNOWLES
Corporation
WORCESTER 1, MASSACHUSETTS, U. S. A.

Charlotte, N. C. • Philadelphia, Pa. • Allentown, Pa. • Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.
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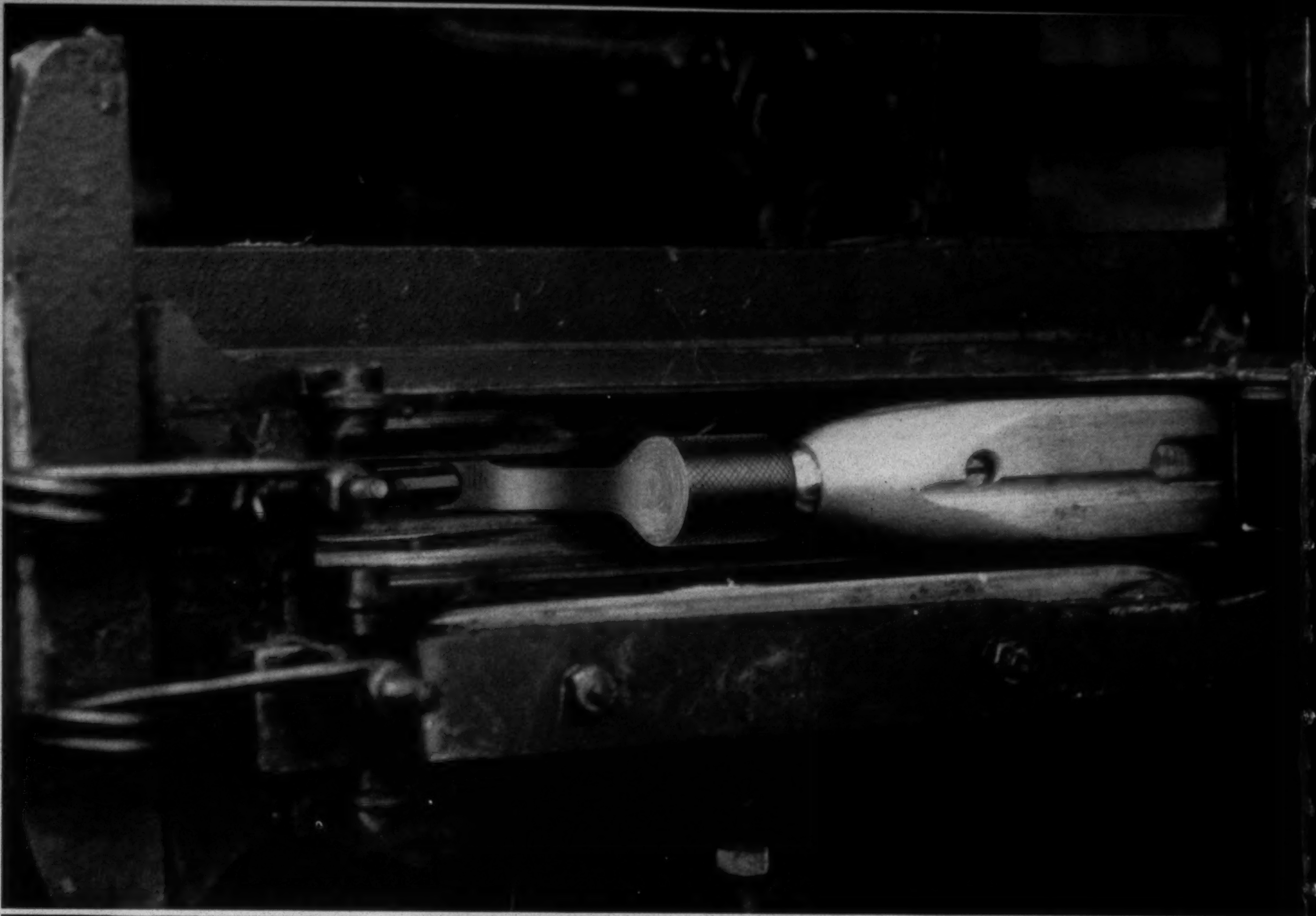


Dayton 3415 P
THOROBRED De Luxe

3 point density control . . .

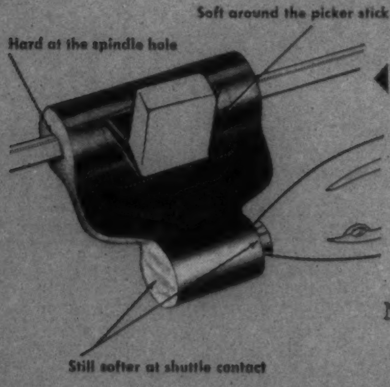
Protect vital loom parts Reduce maintenance costs

with Dayton Thorobred | Drop Box Pickers Lug Straps

You're insuring the life of vital, expensive loom parts when you equip your looms with Dayton Drop Box Pickers. Cushioning action of shuttle-contact area protects shuttle points for millions of picker throws. Extra-resilient compound around picker hole absorbs tremendous shock of repeated shuttle contact, safeguards picker and connecting loom parts. Tough, durable composition in the spindle hole lasts longer, requires no lubrication.

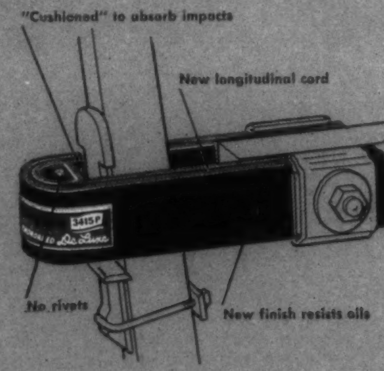
Key to protection of costly picker mechanism is the Dayton Thorobred Deluxe Lug Strap. Controlled elasticity in the molded-in plug cushions picker thrusts, safeguards loom parts. Newly designed, one piece construction assures longer service life, and special longitudinal cords guard against fatigue and permanent elongation. In actual tests against other types of lug straps Daytons gave 2 to 3 times the service life, better protection to looms.

For full information on how you can safeguard costly loom parts and reduce replacement costs with Dayton Thorobred Drop Box Pickers and Deluxe Lug Straps, contact your Dayton textile Distributor or write Dayton Rubber Co., Textile Division, 401 S. Carolina National Bank Bldg., Greenville, S.C.


Soft around the picker stick hole
Hard at the spindle hole
Still softer at shuttle contact

Thorobred Drop Box Picker
Absorbs loom shock,
protects loom parts!

Thorobred Deluxe Lug Strap
One piece construction!
No rivets or other parts to work loose!



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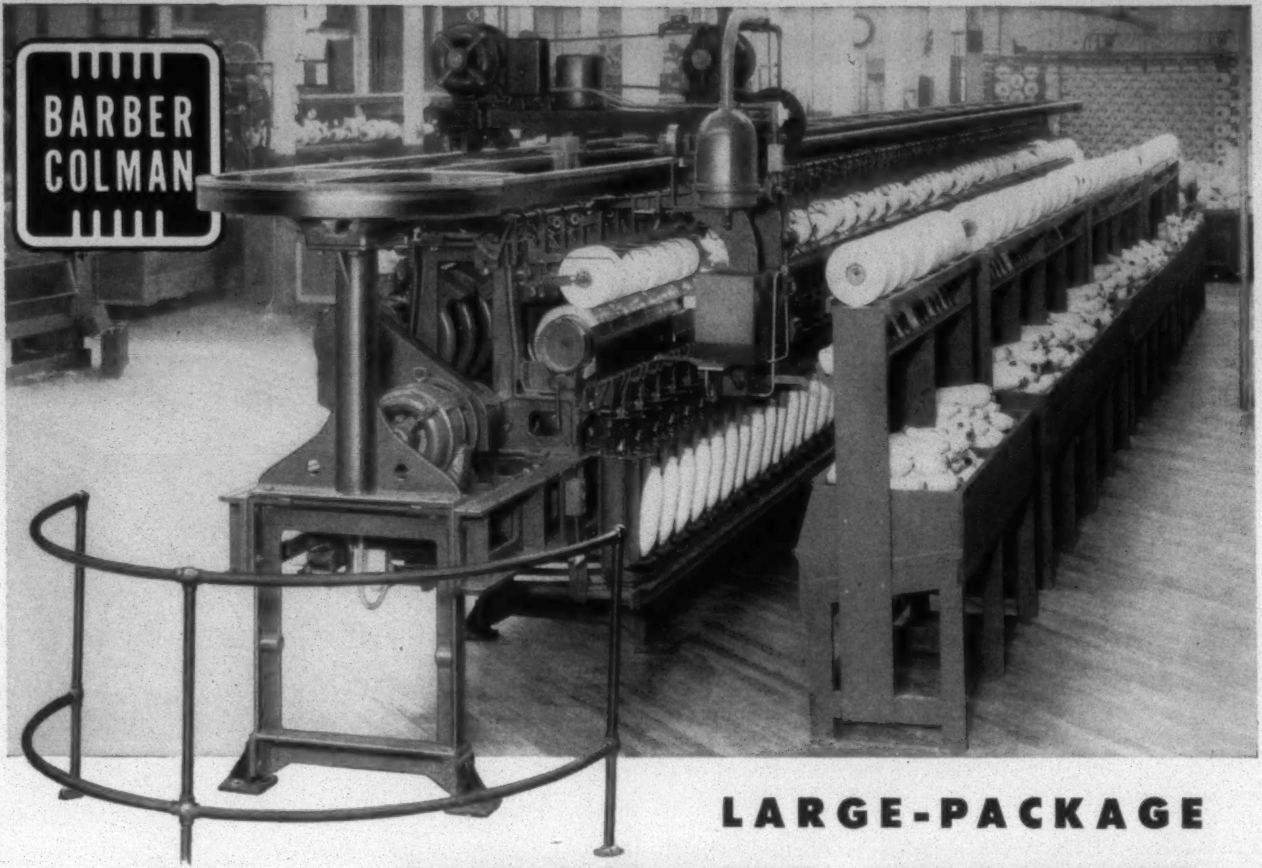
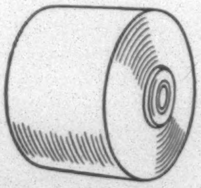
Dayton Rubber
51 YEARS OF PROGRESS

Dayco and Dayton Thorobred Products for Better
Spinning and Weaving.



LARGE-PACKAGE
AUTOMATIC SPOOLER

In accord with the trend toward larger packages, the new Barber-Colman Type "D" Automatic Spooler offers advantages of special design for greater production and better product. While the machine resembles the familiar Type "C" in general appearance, many details have been changed and improved. These include new methods of handling bobbins, new drive and support for the cheeses, new yarn guides and cleaning devices, new vacuum system, added safety arrangements, new means for by-passing a running thread, and various others. All the way through, this new machine is built to fit the modern methods of up-to-date mills. *Consult your Barber-Colman representative for full details.*



LARGE PACKAGES HAVE ADVANTAGES IN THE STEPS THAT FOLLOW SPINNING

The new Type "D" Barber-Colman cheese holds 6½ lbs., which is 120,000 yards of 24s yarn, or 2½ times as much as the standard Type "C" cheese. This gives more slasher beams per cheese, even in the 40"-head size, and thus more loom beams per set. *This increase in loom beams per set, and the consequent reduction in creelings per week, can provide substantial cost reductions in many mills.* Similar advantages are available in the twisting.

USE BARBER-COLMAN INSPECTION AND SERVICE

For *all* your Barber-Colman machines, be sure to call on the Service Department of your nearest Barber-Colman office. The men who staff this organization are specially trained and equipped, with a wealth of experience in checking, maintaining, repairing, and modernizing all types and models of Barber-Colman equipment. They are backed by alert main and branch offices who see that they are supplied with complete and reliable parts and information.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

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Bombay, India

MEXICO
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e Representacoes
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Caixa 5658 e 3431
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switch to

Caro-Gant

...the original 100% active warp dressing

Caro-Gant — tops in warp dressing — is a blend of specially processed fats, binding agents, penetrants and anti-mildew agents with absolutely no inert ingredients . . . every ounce of Caro-Gant works to make your warps stronger and more elastic, whether the weave is coarse or fine.

Caro-Gant disperses readily in hot starch solutions, contains no metallic chlorides and dissolves readily in kiering liquors or other boil-out mediums — giving you maximum economy, efficiency and quality.

Hart Products manufactures a wide range of textile chemicals for the textile industry.

Send for complete information on Caro-Gant and other Hartex products today.

the Hart Products Corporation

1440 BROADWAY, NEW YORK 18, N. Y.

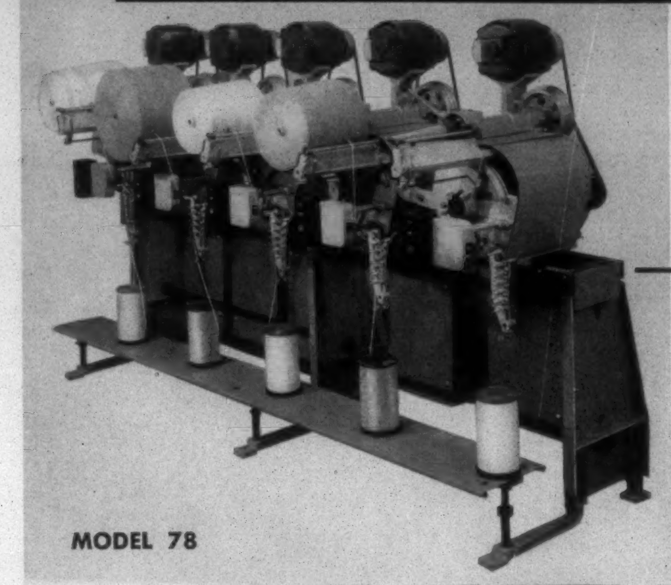
Works and Laboratories, Jersey City, N. J.

Hart Products Company of Canada, Ltd., Guelph, Ontario

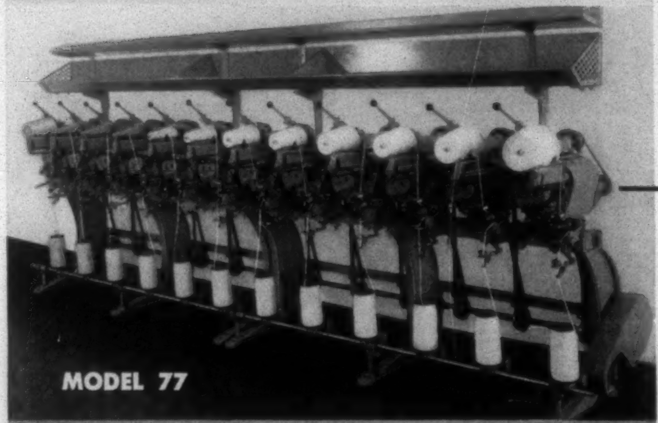
FOSTER MACHINES *for winding*

TUFTED TEXTILE YARNS

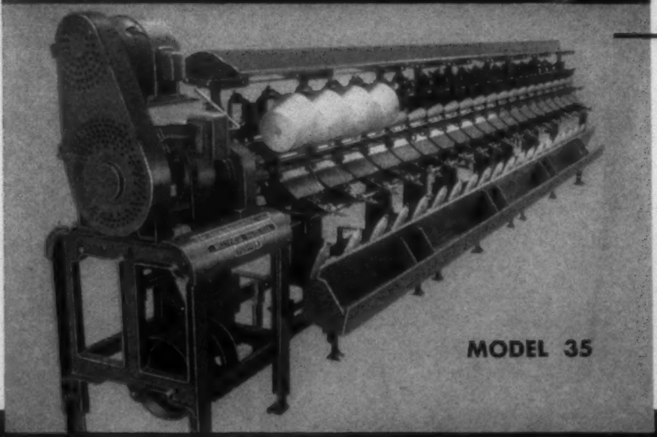
One is Best Suited For Your Requirements


MODEL 78

MODEL 78 – This machine (built in 5 spindle units) produces 8″ to 10″ traverse, precise wind cones up to 16″ in diameter and weighing up to 35 lbs. each. Ball bearing spindles are individually motor driven at speeds up to 800 R.P.M. It has controlled slow start and spindle brake, heavy duty belt gainer with hand wheel adjustment (or positive gear gainer, if desired), positive size stop, electric drop wire and expansion type cone holders, with handle control, for easy donning and doffing. Will wind overend from bobbins or from swifts, reels or unrolling devices.


MODEL 77

MODEL 77 – Built in 6 spindle sections, produces 4″ to 8″ traverse, precise wind cones up to 10″ in diameter and weighing up to 14 lbs. each. Ball bearing spindles, individually belt driven by one motor, run at speeds up to 1100 R.P.M. It has a positive, long wearing package brake and positive solid tapered pulley belt gainer. It will wind overend from bobbins, or from swifts, reels or unrolling devices. 90° build-up from face of cone prevents broken back or under-wound packages.


MODEL 35

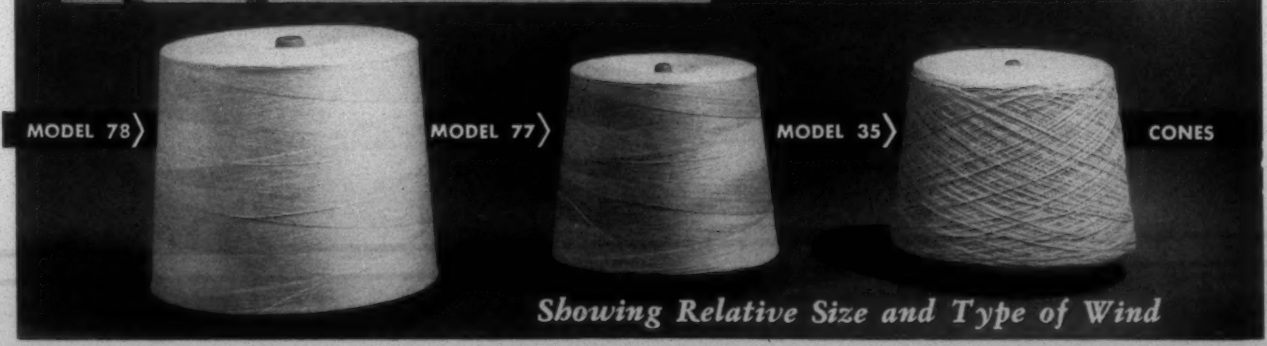
MODEL 35 – Built in units of 10 spindles to 80 spindles. Produces open wind 8″ traverse cones up to 11″ in diameter and weighing up to 9 lbs. each. Winding speed from bobbins is from 180 to 250 Y.P.M. and from skeins 100 to 150 Y.P.M. Standard taper cone holders are 7° 22½′ and 3° 51′. Package brakes and disc waxing attachments are extra. Can be equipped to wind from swifts, etc. as well as from bobbins. Write for Model 78 bulletin A-98A, Model 77 bulletin A-99, or Model 35 bulletin B-46A.

FOSTER MACHINE COMPANY

Westfield, Massachusetts, U.S.A.

Southern Office, Johnston Bldg., Charlotte, N. C.
Canadian Representative, Ross Whitehead & Company Limited, 1475 Mountain St., Montreal, Que. and 35-37 King St., Toronto, Ont.

European Representative, Muschamp Textile Machinery Limited, Keb Lane Bardsley, Oldham, England



Showing Relative Size and Type of Wind

look what AVISCO® rayon brings to BLENDS

- luxurious hand
- improved drape
- affinity for color
- absorbency
- comfort
- luster
- friendly feel
- cross-dyeing style potential
- less need for glazing
- moth resistance
- static resistance
- superb tailor-ability
- low price
- price stability

More and more manufacturers and cutters are discovering the magical effects they can achieve with new blends of rayon with other fibers.

The Avisco Integrity Tag makes such blends promotable. Fabrics qualified to bear the tag enjoy immediate consumer recognition at point of sale. This recognition is created by millions of dollars of national advertising which assures quality all the way back to the fiber.

We will be happy to consult with you on the myriad possibilities of rayon blends. Call LA 4-7200 or write American Viscose Corp., 350 Fifth Ave., New York 1, N.Y.

Combination* Yarns

. . . made to your order

by Branson

Guimpe-type Mylar* metallic
. . for TOWELS

Metalastic
. . for SLIPPERS

Metalastic Mylar*
for BATHING SUITS

Bourdon Corde'
. . for LACE, ACCESSORIES

Metallic Combined
. . for UPHOLSTERY,
DRAPERY Fabrics

Elastic
. . for HOSIERY

Supported Metallic
. . for AUTOMOTIVE Fabrics

Strong, pliable, easy-to-work combination yarns by Branson are custom-made to your specifications.

Combinations of metallic, synthetic or natural yarns . . . elastic, supported metallics . . . are expertly manufactured in the Branson plant.

Highly skilled technicians, together with the most modern equipment and methods, produce combination yarns that are guaranteed to run smoothly on your machines.

For strong, pliable, easy-to-work Combination Yarns . . . tell us your requirements . . . let us work out the details with you.

Branson & Company

1808 Liberty Life Bldg. • Charlotte, N.C.
Plant: Monroe, N. C.

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Napier & Harshman
3555 Peterson Ave.

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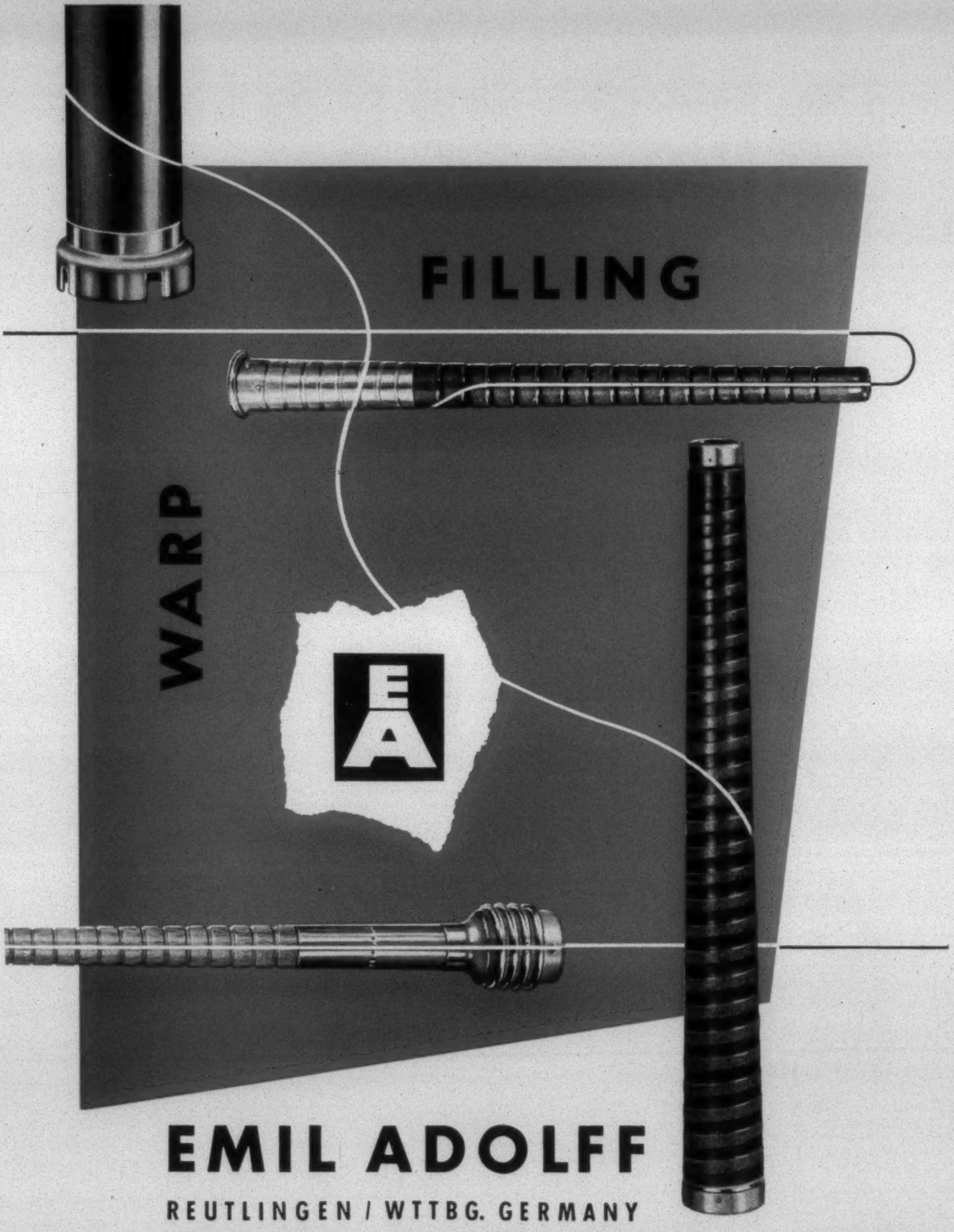
Robert Napier
51 E. 42nd St.

**Dupont's TM for polyester film.*



EMIL ADOLFF

REUTLINGEN / WTTBG. GERMANY

Sales organization for the United States and Canada:

TEXTUBE CORPORATION, 695 SUMMER ST., STAMFORD, CONN., FIRESIDE 8-9253

Southern Representatives:
Watson & Desmond, P. O. B 1954
Charlotte, N. C., Edison 3-6154

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Crowther Limited, 212-214 Victoria Ave.
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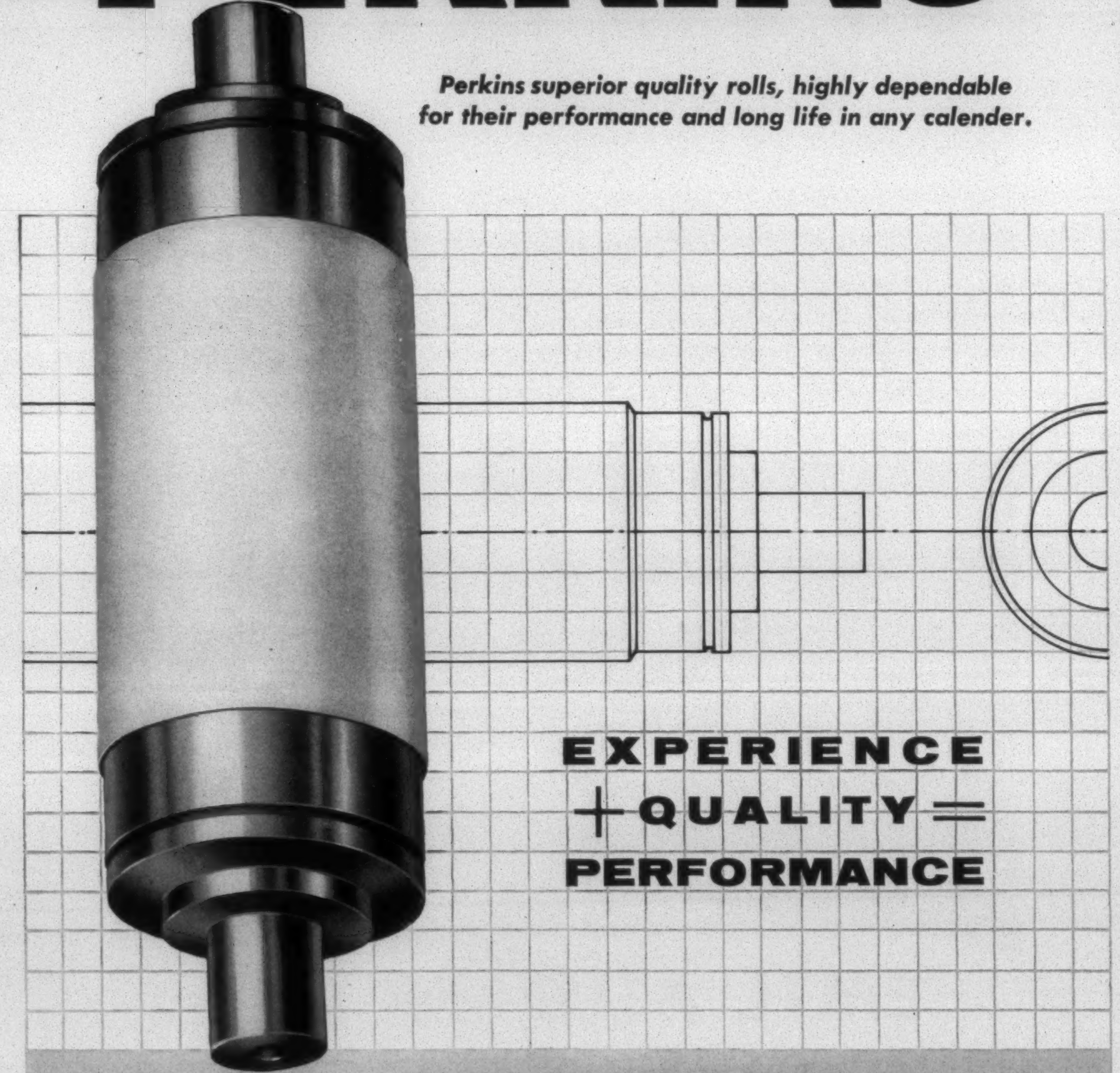
ENGINEERED AND BUILT BY

PERKINS

Perkins superior quality rolls, highly dependable for their performance and long life in any calender.



EXPERIENCE
+ QUALITY =
PERFORMANCE

B. F. PERKINS & SON, INC.
HOLYOKE · MASSACHUSETTS
SOUTHERN SALES OFFICE · 1609 LIBERTY LIFE BLDG · CHARLOTTE · NORTH CAROLINA

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

if you need new pickers —

The Aldrich Single Process Picker is the most modern picker — more anti-friction bearings; more cut gears; more steel gears; more sensitive evener; more chain drives; more valuable improvements than any other picker.

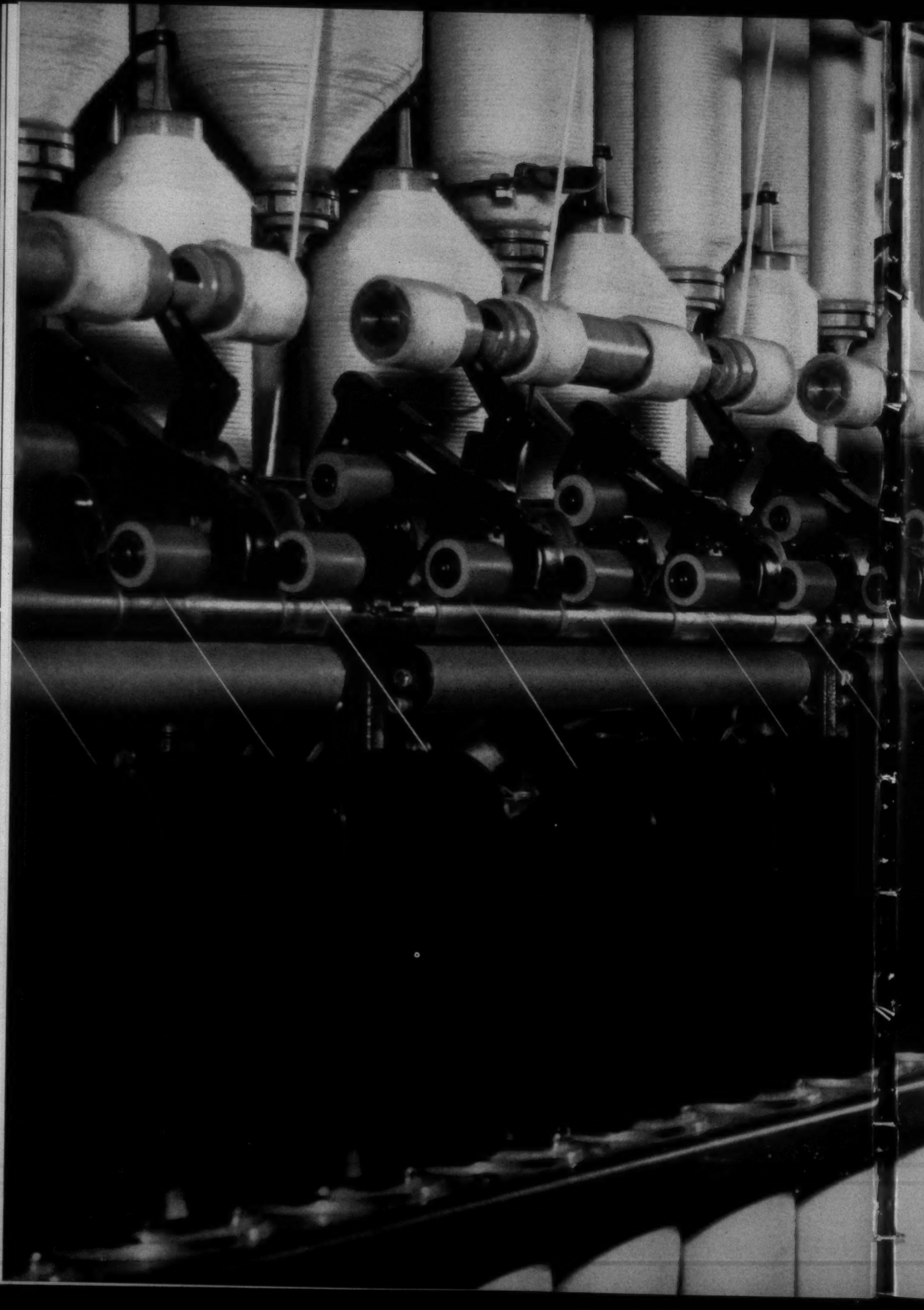
if you have old pickers and they need rebuilding —

Every Aldrich improvement can be put right on your old frames, or some like them that will be furnished in exchange.

if you have old pickers in fairly good condition —

A new Aldrich calender, and a new Aldrich evener will make practically a new picker out of the old one.

AldricH MachinE WorkS
Greenwood, South Carolina



Not a lap-up in sight!

THIS MILL USES ARMSTRONG J-490 ACCOTEX® COTS . . . WITH BUILT-IN LAP RESISTANCE

No matter what you're spinning—natural fibers, synthetics, or blends—you'll get far fewer lap-ups with Armstrong J-490 Accotex Cots on your frames.

That's because lap resistance is actually built right into the J-490's. These cots are made of a patented synthetic rubber compound that eliminates the normal electrical attraction between cot and fiber. In fact, the J-490 compound actually tends to repel broken ends.

The J-490 compound is specially made to provide a smooth, clean-running surface. It has no rough fillers to pull short fibers from stock and cause excessive ends down.

Armstrong J-490 Cots are durable, too. They're made of exceptionally long-wearing synthetic rubber—and all that's needed to keep them running like new for years is an occasional re-buffing. Your Armstrong representative will be glad to help you set up a test side of the J-490's. Ask him about it next time he calls.

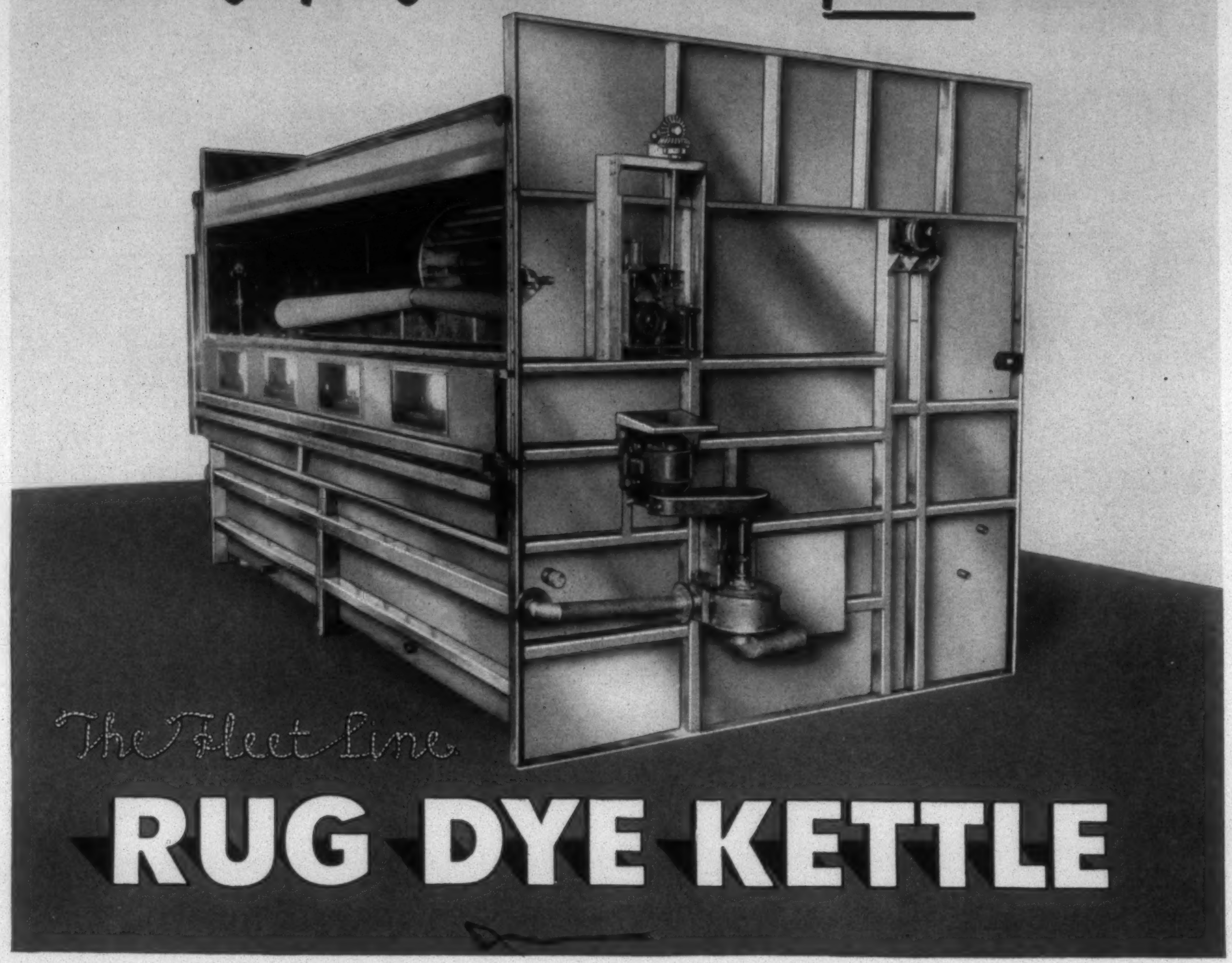
For more information about J-490 and other Armstrong textile supplies, send for "Armstrong Textile Roll Coverings and Mill Supplies." Write to Armstrong Cork Company, Industrial Division, 6508 Davis Avenue, Lancaster, Pennsylvania.

P. S. If eyebrowing is a problem in your spinning room, try the Armstrong NO-742-S Cot. Its "constant-friction" surface packs waste well back under the clearers—stops eyebrows from forming. With normal picking schedules, you'll seldom see an eyebrow on frames equipped with NO-742-S Cots.

Armstrong ACCOTEX COTS

. . . used wherever performance counts

For rug dyeing headaches - the proved cure is



The Fleet Line

RUG DYE KETTLE

This cost-cutting equipment has been thoroughly proved in several years of service. It enables you to do even, level, quick dyeing — side-to-side and end-to-end — of heavy materials in open width . . . cotton or any synthetics, whatever the demand may be . . . richer, thicker goods as required . . . eliminating the high cost of seconds due to uneven dyeing. You can —

Dye many varieties of weaves, keep up with the constantly changing demand for dyeing various synthetics and blends.

Double or triple the speed of your operation on many rug types by *simultaneous multiple dyeing* of different widths — with special guiders enabling you to run through various widths of rug fabric at the same time.

Write for bulletin giving all features of R & L Stainless Steel Rug Dye Kettle. We advise on all dyeing equipment problems.

R & L Rug Dye Kettle proved in service in many plants

ADVANTAGES

Dyes open widths or rope
Multiple width dyeing
More level dyeing
Faster dyeing cycle
Lower dyeing costs
Lower labor costs
Proved, assured results
Easier maintenance

RIGGS AND LOMBARD INC.

FOOT OF SUFFOLK ST., LOWELL, MASS.

Agents: Paul A. Merriam Company, P.O. Box 86, Providence, R. I., Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill., Larry T. Nelson, 2824 S. W. Montgomery Drive, Portland, Ore., F. W. Warrington Co., 611 Johnston Bldg., Charlotte, N. C., A. Harold Zayotti, Jr., P.O. Box 125, Riverton, N. J., H. E. Mott Co., Limited, Brantford, Ontario, Canada.

"GULFSPIN keeps our spindles spinning clean and free"

*says T. F. Snipes, Overseer of Spinning of this prominent southern mill**

"WE have used Gulfspin for almost three years and have found that our 34,000 spindles stay clean with practically no sticking," says Mr. Snipes. "Also Gulfspin doesn't thicken after long usage."

In addition to the benefits mentioned above, Gulfspin provides effective protection against rust—and it reduces power costs because of its ability to maintain its original viscosity after many months of service.

You'll find that the use of Gulfspin will contribute to smoother spindle operation, fewer ends down, and rock-bottom maintenance and power costs.

Contact a Gulf Sales Engineer and let him demonstrate Gulfspin's superiority on your frames. Consult the telephone directory for the number of your local Gulf office.

Gulf Oil Corporation · Gulf Refining Company
1822 Gulf Building, Pittsburgh 30, Pa.

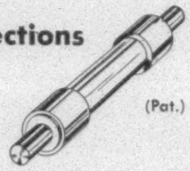
**Name furnished upon request.*

THE FINEST PETROLEUM PRODUCTS FOR ALL YOUR NEEDS

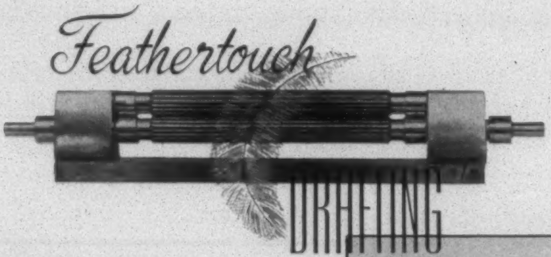
Ideal is the "Jet Propulsion" of Drawing

Ideal High Speed Ball Bearing Drawing Equipment* is as different from ordinary drawing equipment as a jet engine is from the propellor type. Like the jet, it provides better, safer, and smoother operation at approximately twice the speed of ordinary equipment. Here are some of the features which enable Ideal equipment to produce high quality drawing at speeds up to 450 feet per minute.

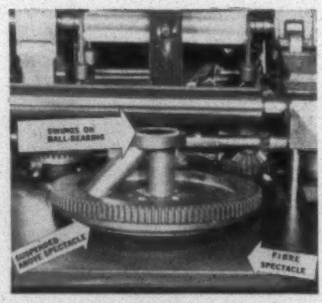
Ideal Ball Bearing Spacing Sections



These are independent of the rolls . . . do not revolve . . . transmit no resistance . . . never wear to throw the rolls out of alignment . . . and provide free-floating top roll action which automatically evens out thick and thin places in the drawing sliver. They positively prevent cutting, bruising, or damage of any kind to stock.



Ideal High Speed Coiler Tube Mechanism



This is suspended *above* the spectacle by means of a ball bearing ring *at the top* and swings lightly and freely on this frictionless bearing. Ball bearing coiler shaft, studs, and upright shaft also contribute to smooth "jet propulsion" action at any speed you wish to attain. Fibre gears run noiselessly and dissipate heat.

New Ideal Knock-off Action

Stops the frame instantly at the first sign of a tube gear choke-up. Eliminates the fibre breakage and danger of machine damage caused by formation of hard masses of packed fibre.

You can get Ideal jet-like speed on new Ideal Frames or in replacements on your present frames. Write for full information today.

*Patent Nos. 2,610,363; 2,490,544; 2,412,357. Other patents pending.

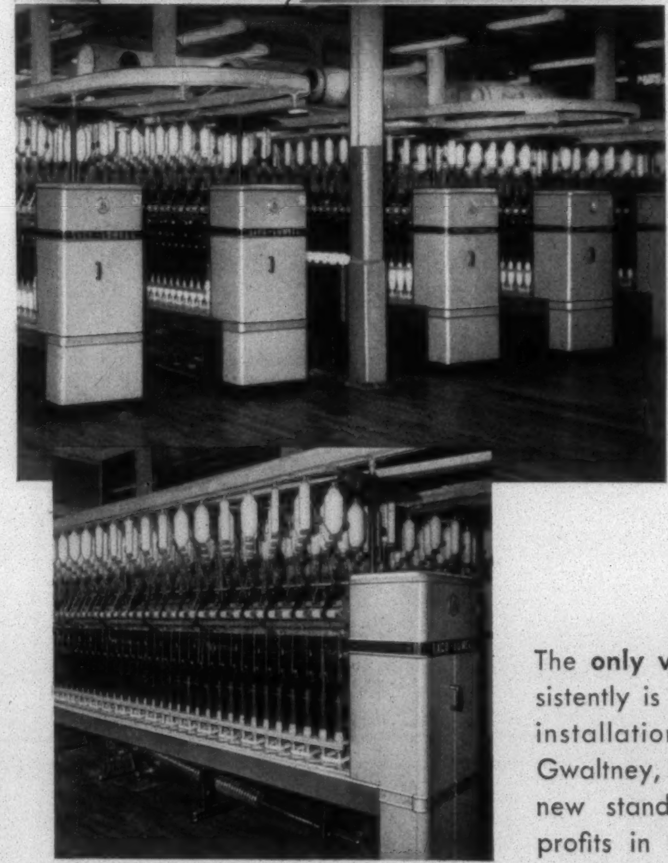
Ideal **Industries, Inc.**
Bessemer City, N. C.

"HOLYOKE"
CALENDER
ROLLS

HOLYOKE MACHINE COMPANY
CALENDER ROLLS for the PAPER and TEXTILE INDUSTRIES
WATER FILTRATION EQUIPMENT
HOLYOKE, MASSACHUSETTS

Spinning Room Efficiency INCREASED 22%
Winding Costs CUT OVER 2¢ per LB.
Coefficient of Variation DROPPED 2 POINTS

THIS GWALTNEY INSTALLATION of 7200 spindles produced these profit-making results in a knitting mill renowned for super quality.*



HERE ARE THE FACTS:

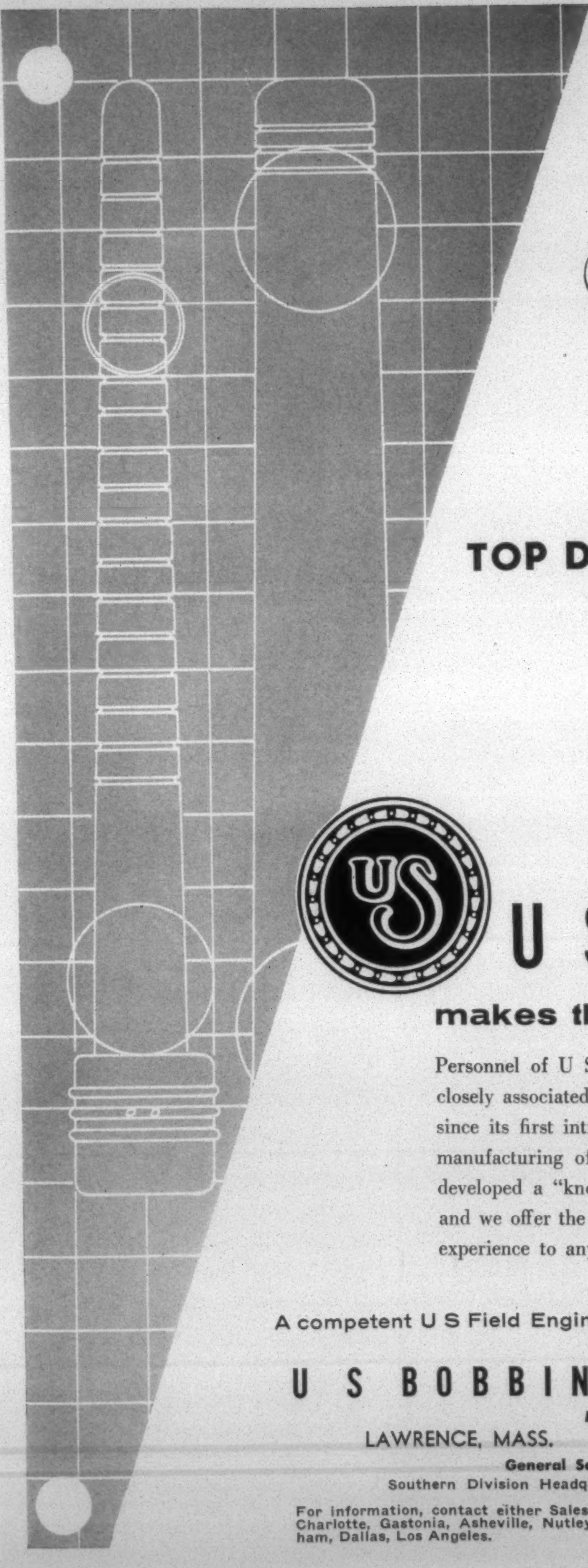
- Size of yarn — 28's super quality knitting.
- Size of rings — 3".
- Twist multiple — 3.00.
- Spindle speed — 8200 R.P.M.
- Front roll speed — 147 R.P.M.
- Traveler speed — 6440 ft. per min.
- Spinners assignment — 30 sides, 3600 spindles.
- Ends down per 1000 spindle hours — 13.2.
- Increase in breaking strength per skein — 16.89%.
- Weight of yarn on package — 12 oz.

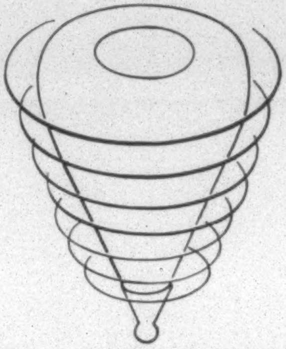
The **only way** to achieve this type of performance consistently is with a Saco-Lowell Gwaltney Spinning Frame installation. Since 1953, over 450,000 spindles of Gwaltney, in 70 mills, have been installed and are setting new standards of production efficiency, quality, and profits in these mills.

Have a Saco-Lowell Sales Engineer study your operations and prepare a "Forecast of Savings" that will tell you what to expect from a Gwaltney Installation in your mill.

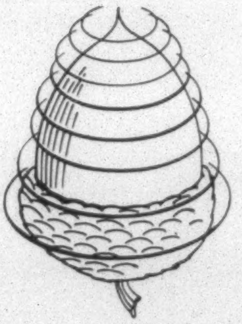
*Name on request.

SACO-LOWELL
60 BATTERYMARCH STREET, BOSTON 10, MASS.
Shops at BIDDEFORD and SACO, MAINE; and SANFORD, N. C.
SALES OFFICES: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA





TOP DRIVE or ACORN DRIVE?



U S BOBBIN

makes the BEST of both!

Personnel of U S Bobbin & Shuttle Co. have been very closely associated with the Top Drive principle in the bobbin art since its first introduction to American mills. In the manufacturing of these quills and warp bobbins we have developed a "know how" of which we are justly proud . . . and we offer the benefits of this valuable accumulated experience to any interested mill.

A competent U S Field Engineer will contact you promptly, on request.

U S BOBBIN & SHUTTLE CO.

Manufacturing Plants
LAWRENCE, MASS. • GREENVILLE, S. C.
General Sales Office LAWRENCE, MASS.
Southern Division Headquarters: 428 Birnie St., GREENVILLE, S. C.

For information, contact either Sales Office; or our Technical Field Representatives located in Charlotte, Gastonia, Asheville, Nutley, N. J., North Attleboro, Mass. Supply Houses: Birmingham, Dallas, Los Angeles.

For the Textile Industry's Use

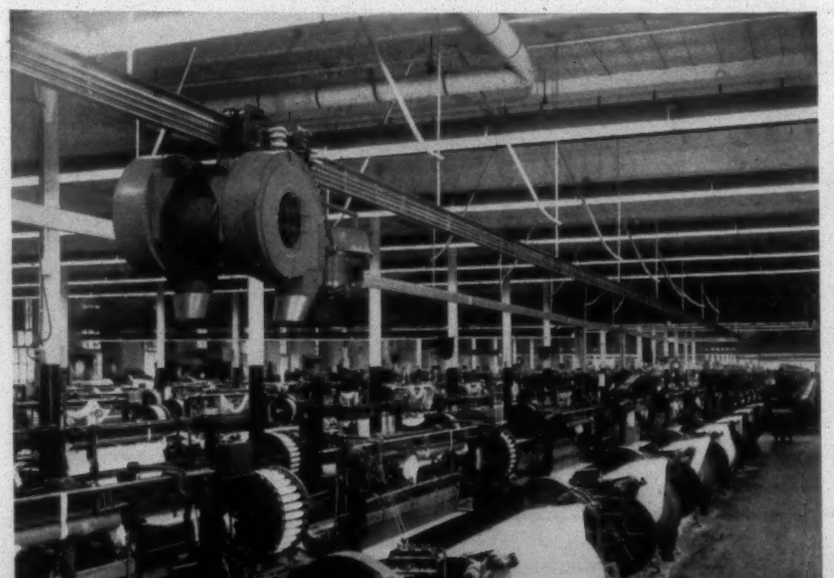
Heliclone Loom Cleaner

The Heliclone loom cleaner which uses helically spinning jets of high velocity air to give a series of lifts and shoves to lint, fly and dirt to set a new standard of effectiveness has been introduced by American Moistening Co.

The loom cleaner uses rapidly whirling outlet nozzles, driven by the air stream, to direct the air jets, always at an acute angle, in a series of overlapping circular patterns at the loom and cloth surfaces to produce a rapid series of bursts of cleaning action each time the Heliclone passes over the looms on a timed cycle. A new type of ceiling suspension for track carries the Heliclone along the lines of looms. It eliminates the need for supporting posts or attachments to the frames of the looms, leaving a clear view throughout the room and avoiding the addition of more lint catching surfaces.

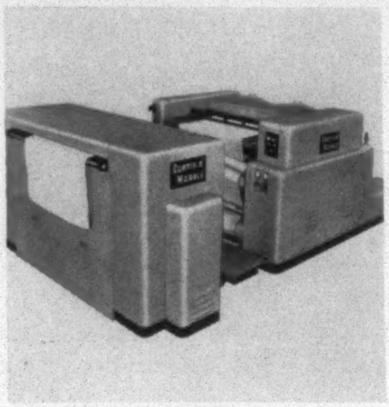
The Heliclone has been designed and constructed to deliver in a higher measure the many benefits expected from continuous, automatic loom cleaning, Amco points out. Some of these important benefits in addition to lowered cleaning costs are: increases in production and quality from normally clean looms with fewer stops for broken ends; marked reduction in the fire hazard by eliminating accumulations of highly flammable wastes; a definite decrease over-all in the number of such weave-room headaches as: loose filling bunches, kinks, broken picks, pull-ins, hitch backs and over shots. The standard Heliclone operates on 55-volt 3-phase power for safety to personnel and provides both loom and ceiling cleaning.

(Request Item No. H-1)



Heliclone loom cleaner (American Moistening Co.)

Finishing Range



M-125 range for brushing and shearing (Curtis & Marble Machine Co.)

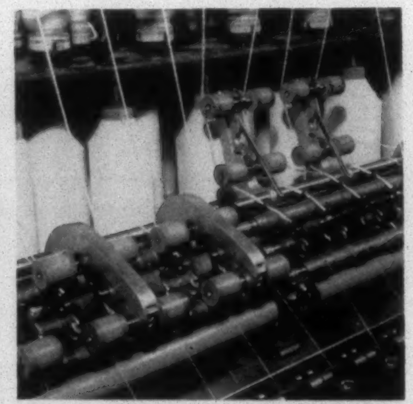
Curtis & Marble Machine Co. has announced the development of a new finishing range, the M-125. Said to offer a new concept of operation in cloth finishing procedure, the precision-built M-125 has the following shear engineering features, the company points out: Easy-access protective steel panels encase the shear. Automatic seam and cloth protectors give complete full-width cloth protection at all times. Revolvers, with longer life cutters, are the oscillating type and have individual built-in motors, quick-set rest adjustments, capillary oilers and automatic instantaneous reversing of the rotation for seam passage. Draft rolls are synchronized. Tension control is pneumatically operated. Special brushes are installed to pick up long threads. Electrical wiring conforms to J.I.C. standards with dual front and/or back control. Rolling head is an adjustable batch-stop type pneumatically driven. Specifications: widths—50", 60" and 72"; height—54"; total horsepower—5, with a.c. motor drives; floor space—50", 8'2" by 9'; 60", 9' by 9'; 72", 10' by 9'.

Brusher engineering features, as cited by the company, include: Easy-access protective steel panels encase the brusher. Up to 8 interchangable cylinders can be used based upon brushing requirements. Individual quick-set rest adjustments are provided, which permit almost instantaneous changes from light to heavy brushing, or vice versa. Electrical wiring conforms to J.I.C. standards with single stop-start control panel. Abrasive rolls, card rolls, beaters and brushes may be paired in any desired combination. The exhaust hood is concealed beneath the panel cover. Specifications: standard widths—50", 60" and 72"; height—54"; total horsepower—3, with a.c. motor drives; floor space 50", 9' by 3'4"; 60", 9'10" by 3'4"; 72", 10'10" by 3'4".

The M-125 shear or brusher can be custom made in widths other than standard, the manufacturer points out.

(Request Item No. H-2)

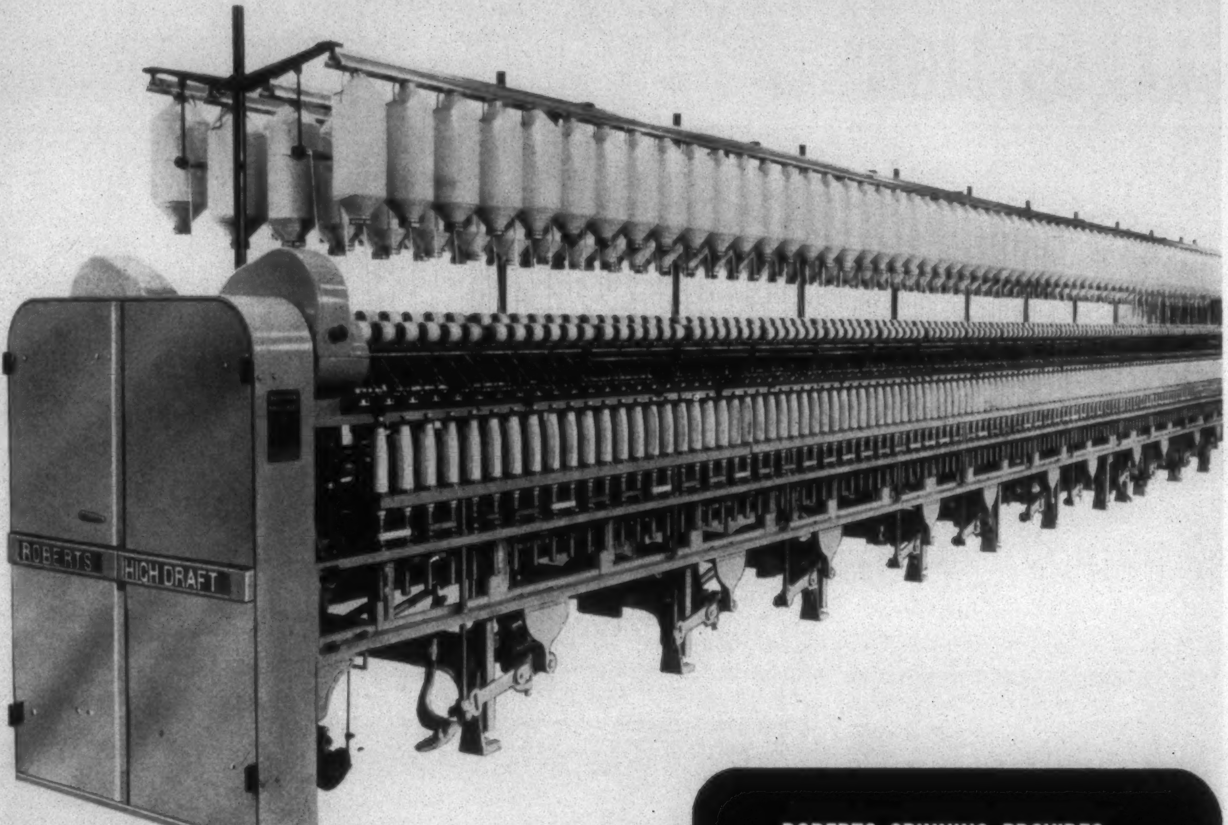
Anti-Friction Spinning



NYAF anti-friction spinning (Norlander-Young Machine Co.)

Norlander-Young Machine Co. announces the development of NYAF anti-friction spinning, said to be capable of out-producing any anti-friction spinning yet developed. According to the manufacturer, NYAF features: (1) center suspension with rugged center support; (2) induction hardened

ROBERTS SPINNING



ROBERTS SPINNING PROVIDES:

- Better yarn quality
- Higher production per spindle
- Increased package sizes
- Lower maintenance expense
- Lowest first cost

COMPARE ALL 3

For high production, top yarn quality, large packages, low maintenance expense, dependability—and, at the lowest investment per spindle — Roberts Spinning is second to none in America today.

Available in 39 inch, 36 inch and the new Roberts 25 inch width Frames.

All standard features used on Roberts Spinning Frames can be adapted as Changeovers to your existing frames.

2 1/4 MILLION SPINDLES

In Changeovers and complete Frames—Roberts Spinning has been overwhelmingly accepted by American mills — over 2¼ million spindles now equipped with ROBERTS HIGH DRAFT.

ROBERTS COMPANY
SANFORD, NORTH CAROLINA

19th SOUTHERN
TEXTILE
EXPOSITION

October 1-5, 1956
Show Hours: 9 A. M. to 6 P. M.
(Monday through Friday)

Textile Hall
Greenville, S. C.

See on exhibit latest developments in cost cutting, quality building machinery, equipment, supplies, techniques.

Room Reservations should be made in advance to

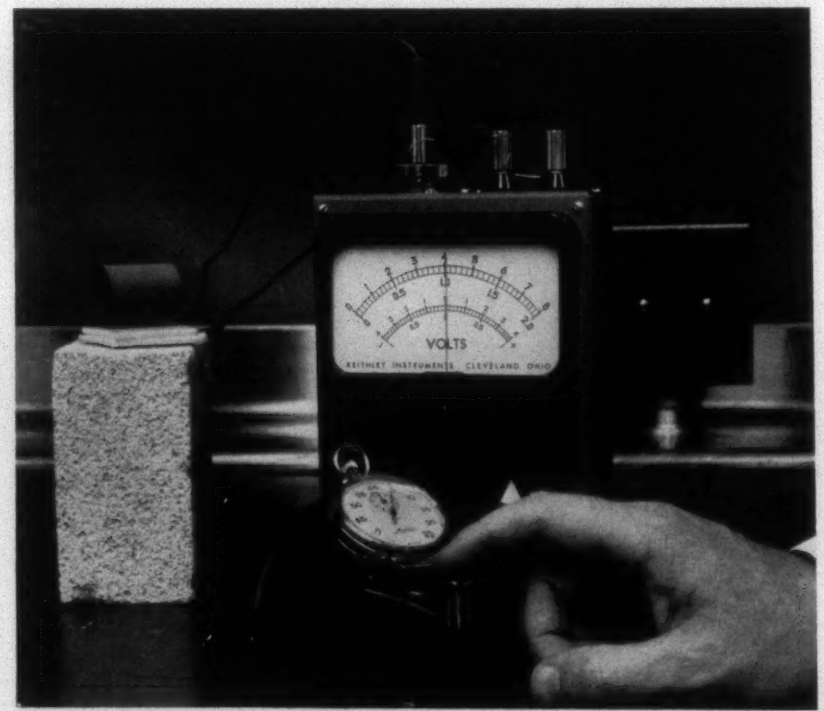
Textile Hall Corporation
Greenville,
South Carolina

"An institution of the textile industry since 1915"

rolls with ball bearings lubricated and double sealed for life; (3) only 2 moving parts; (4) positive dead weight front and middle rolls, with back rolls spring weighted; (5) front and back rolls easily dismounted for cleaning and buffing; (6) no end play in center support; (7) fine adjustment of cradle to .005"; (8) cannot get out of line; (9) only 1 adjustment as compared to 12 on old type frame; (10) rugged construction takes care of effective weighting up to 120 lbs. (and over if necessary) at any roll speed desired; (11) assembly and erecting time only one-half that of conventional methods; (12) no oil, therefore less lint; (13) precision engineered for perfect roll alignment at all times with fluted drafting rolls. (Request Item No. H-3)

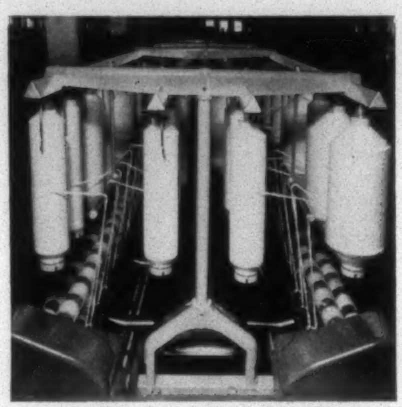
Anti-Static Roll Cover

Development of a new anti-static roll cover that is said to practically eliminate lapping caused by static has been announced by the Armstrong Cork Co. The cover, recently added to the Armstrong Accotex line, is designed to meet the problems created by the growing use of synthetic yarns, the trend toward non-metallic cap bars, and the elimination of other metal-to-metal contacts in frames. The new roll cover was developed through the addition of certain compounds that permit the rapid flow of static electricity from the roll cover to the steel drive roll, Armstrong points out. Extensive field testing under actual production conditions reportedly has proven that the new roll cover is highly efficient in eliminating lapping caused by static and in reducing waste. Roll covers are made in all standard sizes and in compositions for frames equipped with either flat or revolving clearers. (Request Item No. H-4)



A new anti-static roll cover, developed by Armstrong Cork, is shown as it undergoes a static flow test in the company's research and development center. In this test, the new roll cover is placed on a pair of needle-point contacts that are connected to a condenser which has been charged momentarily by a 6-volt battery. The roll cover thus provides a path through which the electrical charge in the condenser can flow. The speed with which the cover discharges the condenser is shown by the rate at which the meter on an electronic voltmeter drops from 6 volts to zero. A stop watch is used to measure the time this takes. Tests show that the new roll cover, added recently to the Accotex line, bleeds off a 6-volt charge in less than 35 seconds. (Armstrong Cork Co.)

Open-Aire Creel



Open-Aire creel (The Bahnson Co.)

The Bahnson Co. is now offering its new Open-Aire creel. The company points out that it is the only creel constructed of heavy stamped steel with a baked enamel finish designed to offer maximum strength and cleanest surfaces. The deep drawn steel crossarms, notched to give stronger lateral support and to conceal runner clips,

LAST CALL!

Final forms for TEXTILE BULLETIN'S September issue with its colorful and complete preview of the Southern Textile Exposition and feature articles dealing with various phases of the industry, will close August 27.

The South, with over 90 per cent of the nation's active spindles and looms, will furnish practically all of the attendance at this big event and TEXTILE BULLETIN leads all textile journals in coverage of the officials and operating executives of Southern spin-weave mills, although its rates are far under those of other textile journals.

Every exhibitor who is displaying some new or improved product can use this issue profitably for a message that will capture the interest of these Southern manufacturers and thus attract a larger number of customers and prospects to his booth.

Space should be reserved promptly—a collect wire is suggested. Copy and cuts must reach us by the above date.

Cordially yours,

textile bulletin

The NATURAL Combination—
TEXTILE BULLETIN and the
SOUTHERN TEXTILE EXPOSITION

ANHEUSER-BUSCH, INC.

ANHEUSER-BUSCH, INC.

Sign of highest quality

STARCHES
Standard and Homogenizer starches for warp sizing and finishing.

DEXTRINES
Warp sizing, printing, dyeing and finishing.

GUMS
Warp sizing and finishing.

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1208 Johnston Bldg.

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SAN FRANCISCO, CALIF.
465 California

CAMBRIDGE, MASS.
111 Sixth Street

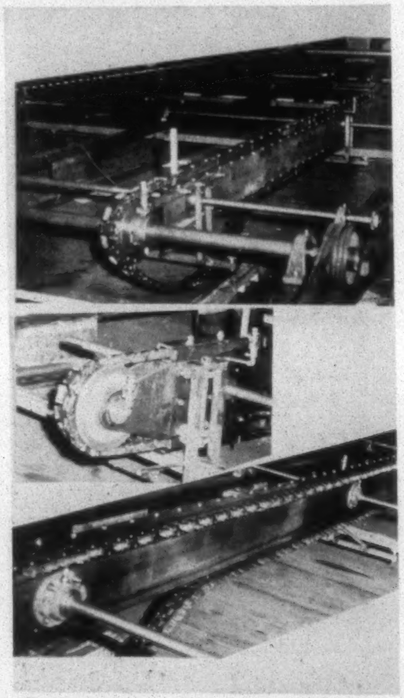
PHILADELPHIA, PA.
328 E. Chelten Ave.

are factory assembled for simplified installation.

Bahnson reports that most mills prefer the smaller and stronger baked enamel steel runners, but extruded aluminum runners can be furnished as optional. The smooth and durable baked enamel steel surfaces of the Bahnson creel eliminate etching and corrosion and minimize lint accumulation. As an added feature, the Open-Aire creel is furnished in a choice of color finishes.

(Request Item No. H-5)

Tentering System For Carpeting

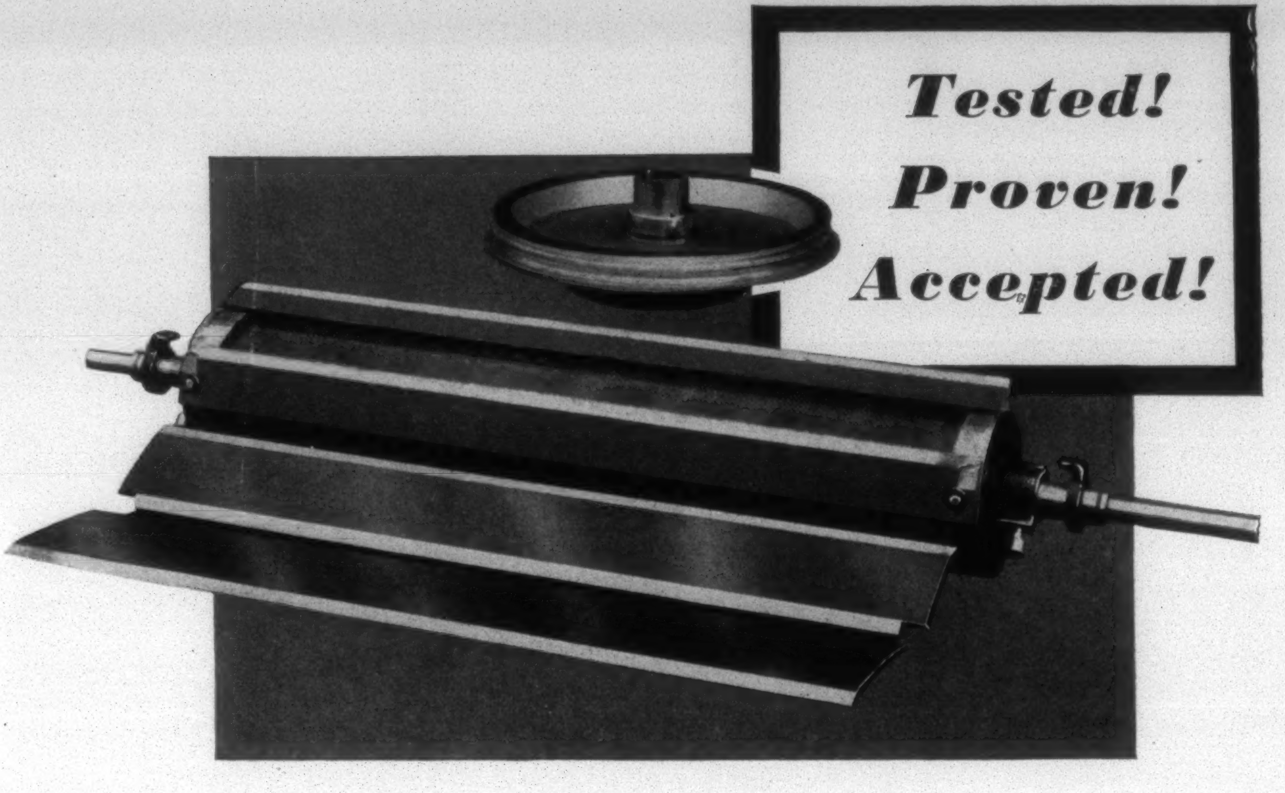


Tentering system for carpeting (Southern Textile Works)

Southern Textile Works has announced the development and installation of a tentering system for carpeting, said to be the first successful machine of its type in the U. S. The machine will automatically even out and hold straight the edges of the carpeting during the curing of the latex in the oven, effecting savings of 3% to 10% by eliminating the waste on the cut edges and prevention of shrinkage during the drying process.

The principal advantage, Southern Textile points out, is the "control" of width from the tufter to the finished carpet. Instead of running extra wide material with allowance for shrinkage and cutting, it is now possible to determine the finished width at the tufter.

Southern Textile specializes in machines too wide or narrow for standard tenters. The unit is built to a specific job and to fit exactly as required into the existing dryer installation, with a minimum of changes. It is not necessary to adapt the process to the machine, rather the tenter is made especially for the job at hand. Each



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Eliminates Lumps and Flakes When Carding Synthetics

It is precision built . . . . . machined to your specifications and tolerances by GOSSETT technicians. The extra long spring steel wire fillets are guaranteed to fluff all synthetic fibers from the card cylinder thus enabling the doffer to pick them off evenly. Further, the GOSSETT Card Fancy fluffs the synthetic fibers so well that the doffer will pull off and make as good a sliver as you have ever seen.

When you install the improved GOSSETT Card Fancy there will be no more excess loading on the cylinder. Write at once for full particulars and estimated cost.

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GOSSETT Machine Works, Inc.
GASTONIA, NORTH CAROLINA

National Plastic Sheaves for Dobby and Cam Looms

Self-Lubricating:
no oil to drip, gum or freeze

Stronger:
won't chip or break in ordinary use.

Smoother:
reduce cord or strap wear, and won't pick up lint or fly.

Swaged Bearings:
won't loosen or wobble . . . and will last many times longer than ordinary sheaves.

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Exclusive Sales Agents

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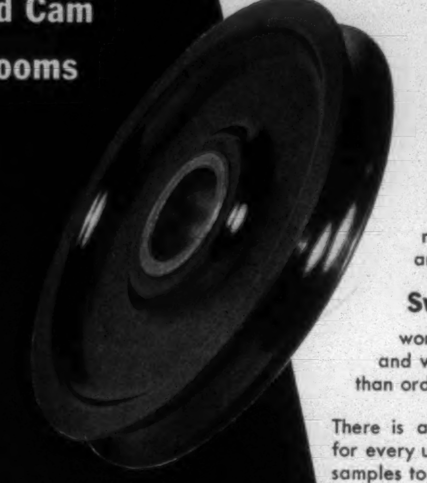

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Cylinders
  Spinning
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  Twisting
Drip Pans
Dye Kettles and Vats (New)
Dry Cans
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Vee Belt Drives for Dry Cans
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Special Machines Custom Built

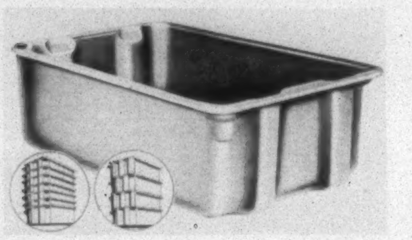
SPARTANBURG, SOUTH CAROLINA, U. S. A.

tenter has adjustable width for goods 9' through 16' and wider.

The sturdiest type of construction is utilized in the structural members, the manufacturer points out, since the unit is designed for instant response and flexibility. The master control panel gives the operator instant control of any phase of the machine's operation. Several machines are currently scheduled, Southern Textile reports.

(Request Item No. H-6)

Stack-n-Nest Tote Pans



Stack-n-Nest tote pans (G. B. Lewis Co.)

G. B. Lewis Co., manufacturer of Stack-n-Nest tote pans, has announced that 2 additional new sizes of the pans are now being made to cover a variety of materials handling applications. The company points out that the Stack-n-Nest is unique because of its ability to both stack and nest within its own dimension. This is possible because each end of the pan is formed to a different contour offset. When pans are alternated, safe, level stacking is achieved as each pan becomes interlocked to its mate. By keeping like-ends together, the pans will nest deep without sticking, even when loaded, it is said.

The tote pans are molded of fiber glass reinforced polyester. The strength and durability of fiber glass, combined with extremely lightweight characteristics, enable the pans to take rough treatment without denting, warping, rotting or softening. They will resist water, oil and chemicals and will not rust or corrode. The surface is smooth and soft to the touch and will not scratch or cut hands when being handled. Molded-in colors available in grey, red or green. Sizes now available include 16x10x5, 18x12x6 and 22x14x8.

(Request Item No. H-7)

Fork Lift Truck

A new fork lift truck designed specifically for quick stacking of loads up to 1,000 lbs. in the narrowest storage aisles of any comparable truck is being introduced by The Colson Corp. The unit is particularly applicable for light but bulky loads. Its low weight of 2,168 lbs. makes it possible to use the truck on old floors, elevators and truck beds where the heavier, larger trucks cannot be used. It can stack loads 30" long in aisles as narrow as 6'8". Turning radius is 3'6". It lifts a load 12' in 16 seconds. The mast can be lowered to 5'9" to clear trailer doors. The patented all-hydraulic drive, coupled to a standard industrial engine replaceable in 10 minutes, makes possi-

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ble considerable savings in weight, size, original costs, operating costs and maintenance, the company points out. All operations are controlled by a single lever. Oil transmits all power for lifting, travel in 2-speed ranges, brakings and reversing. The engine is started with a push button. Such high-wear mechanical assemblies as clutch, transmission and friction brakes are eliminated. (Request Item No. H-8)

Skewer Re-Tipping Machine

The Stellite American Corp. is now distributing a new skewer re-tipping machine manufactured by Etablissements Pol Paxon a Lusigny (Aube) France. Designed for the economical and rapid repair of wooden skewers, the machine reportedly can bore, mill and insert a new tip in less than 20 seconds. The unit can be operated by unskilled labor, Stellite American points out. (Request Item No. H-9)

Wicatex Duller

Wica Chemicals Inc. has announced the latest additions to its line of specialty textile chemicals, Wicatex Duller 3192 and Wicatex Duller 3140. Wicatex Duller 3192 is a 50% cationic colloidal dispersion of titanium. Its even exhaustion, high degree of light reflectance and softness of handle are especially attractive to wet processors of synthetic fabrics and fibers, Wica reports. Ease of dispersion in warm water, marked decrease of surface sheen and durability of effect are claimed for this product. Wicatex Duller 3140 is a 25% anionic compound equally effective in light reflectance value. It is an economical assistant generally employed in accepted finishing mixes, the company points out. (Request Item No. H-10)

Seam Inspecting Machine

Birch Bros. Inc. has announced the development of a new seam inspecting, sewing and winding machine designed for the inspection of seams in large diameter rolls of cloth as received from the greige mill and delivered to the finishing plant. The new unit permits the rapid inspection (130 to 260 yds. per minute) of seams to ascertain if they need re-sewing before processing.

The machine consists of a let-off unit equipped with magnetic brakes, and a pair of upright stands on which the guide rolls, the automatic seam detector, the air cushioned compensating roll and the control panel are mounted. The seam detector is said to be sufficiently sensitive to stop the seam automatically just before it reaches the railway sewing machine, which is also mounted on the uprights. The railway sewing machine is fitted with a Merrow butt-seam head, with an arrangement for multiplying the number of stitches at the selvage of the fabric. As an alternative, the chain stitch head may be used.

On the delivery end, the machine is fitted with the necessary guide rolls, adjust-

SOUTHERN STATES NOW OFFERS A FOUR-WAY COMBINATION TO BETTER CARDING OPERATIONS

No mill need put up with hot, leaky, rattling comb boxes, hard-to-align comb blades with distorted fingers, out-dated off end bearings, or antiquated coilers with small cans. Not when Southern States has a four-way answer to all of those problems and at prices every mill can afford!

One. Ball-bearing, sealed-for-life Comb Boxes that operate smoothly, quietly and never run hot.

Two. New Aluminum Comb Stock with solid blade support. Light in weight, yet more rugged than conventional steel. End journals of steel simplify balancing and assure long life. True alignment is easy. No distortion between fingers.

Three. Vibrationless Off End Stand. Pre-lubricated sealed bearing eliminates oiling. Mounts either right or left hand.

Four. Universal Coiler Head for 14- or 15-inch cans for use on any make coiler. Simplified design. Cut tooth gears and oilite bearings throughout.

These Southern States units will bring vastly improved carding operations to your mill and cut operating costs. Facts and figures, based on case histories, will prove how they pay for themselves in record-short time. Let our representative give you the details, or write us direct.

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Useful
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We maintain full engineering and service facilities on all types of materials handling systems and carry stocks of standard items and parts.

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A complete line of gravity, belt, and trolly conveyors—inclined, vertical, and portable (open franchise).

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Complete Range Fork Lifts
Chore Boys—Mules
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LP Gas Models (for
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Let our
Engineers Show You
How to Save Money in Your Mill

W. D. DODENHOFF CO.
INCORPORATED
GREENVILLE, SOUTH CAROLINA

able tension, scrimp bar, yardage counter and a 2-roll batcher, which is equipped with magnetic brakes. The machine, driven by a variable-speed motor drive through an automatic electric clutch of variable torque, is designed to eliminate the possibility of poor seams and consequent breakage of the seams with expensive delays, as well as to permit the detection of crooked seams which might cause wrinkles or distortion of the fabric in the finishing operations.
(Request Item No. H-11)

Sandoz Vat Dye

Sandoz Chemical Works Inc. has announced the development of a new anthraquinone brown, Sandothrene Red Brown N2RF paste ultrasperse. The new product yields shades fast to kier boiling and bleaching at minimum cost, Sandoz points out. A folder, U. S. 208-37, describing this product is available upon request.
(Request Item No. H-12)

Supr-O-Tape Now Available With New Hy-Car Coating

Supr-O-Tape is now available with Hy-Car coating in addition to the regular neoprene, according to Benjamin Booth Co., manufacturer. The Hy-Car coating will be useful where oil or emulsions present a problem because this coating is oil resistant. Like the neoprene-coated Supr-O-Tape, it has all the other advantages, such as long life, non-stretch, maintains square edges and full width, no need to oil, etc., the company points out. The new Hy-Car coating will be available at the same price as the standard neoprene coated Supr-O-Tape.
(Request Item No. H-13)

Improved Sample Card

Stellite American Corp. reports that Anton Guillot K. G., Aachen, Germany, is now manufacturing a new model of its sample card with tape condenser. The sample card can now be equipped with fillet clothing or metallic clothing and the new construction permits wider settings for the processing of synthetic fibers. The tape condenser is equipped with 2 motors and a special drive for the rub apron which permit regulating the r.p.m. of the rub aprons from about 250 to from 450 to 500. The rub aprons are made of rubber and the tape condenser has either 2x7 ends with 18 mm. tape or 2x10 ends with 13 mm. tapes. Stellite American is a sales agent for the German firm. (Request Item No. H-14)

Titan Tying-In Machines

Edda International Corp. has announced that with the appearance of the new, improved Titan warp tying-in machine, Model GK-6, a unique new method of tying cotton and spun rayon warps is made available to the industry. This method consists of obtaining an end-and-end lease from the drop-

ACRILAN

There's no end to the end uses of Acrilan acrylic fiber. From high-fashion dresses to long-wear work clothes, from blankets to baby's sleepwear, from suits to sweaters —Acrilan adds new luxury and practicality. It makes up into fabrics with remarkable, luxurious hand and longer wearing qualities ...lighter-weight fabrics that look rich, have a magnificent affinity for color, and retain their shape and press. Fabrics that can be machine-washable, in many cases wash and wear. In a widest possible variety of fabrics for a tremendous variety of end uses—Acrilan gives you a run for your money. And then some!

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You can spin BETTER YARN at LOWER COST with the new improved

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in two types—

78% Wool and 22% Cotton, or 25 oz. and 30 oz. All Wool. In either type, you get the highest quality clearer cloth money can buy.

The new ORR CLEARER CLOTH is a worthy companion to Orr's All Wool, chemically treated

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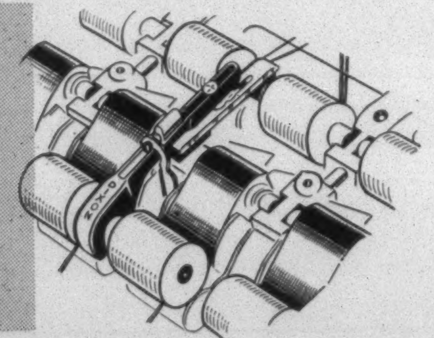
South Carolina—Fred E. Antley, P. O. Box 802, Greenville, S. C.

TEXTILE LEADERS
make volume installations

...NEW Dixon Saddle Guide



Nearly 1,000,000 Spindles

have been recently involved in change-overs and new frames as over 100 textile leaders adopt the *new* Dixon Saddle Guides — at savings in initial cost and operating cost. Included are:

Deering Milliken Mills	112,000 spindles
Saco-Lowell Shops	420,000 spindles
J. P. Stevens & Co.	81,000 spindles
Whitin Machine Works	110,000 spindles

For data and savings estimates, write —

DIXON CORPORATION
BRISTOL RHODE ISLAND
Southern Sales: R. E. L. Holt, Jr., and Associates Inc., Box 1319, Greensboro, N. C.
Northern Sales: William R. Fox, P. O. Box 380, Providence, R. I.

wires with the Titan Models GK-6A and GK-6B so designed that the machines will select the ends in sequence from this lease and tie them to the unleased ends (flat sheet) in the new beam.

Edda reports that the method gives remarkably straight warps, eliminates crossed ends in the dropwires and often can increase loom efficiency as much as 3% and over on heavy sley warps and reduce cloth seconds 25% or more due to fewer broken ends during the weaving operation. The Titan Models GK-6A and GK-6B are completely universal in that both can be changed in a minute to tie leased-to-flat, leased-to-leased or flat-to-flat warps, depending on the yarns and fibers to be tied, the company points out. Titan Model GK-6C is for unleased warp tying only, either where light sley warps are involved or where heavy count yarns are woven. All 3 models come with tying frames to accommodate any width of warps up to 120" and tie all widths in 1 bite. (Request Item No. H-15)

Naphthol AS-LG

Blackman-Uhler Co. and Alliance Color & Chemical Co., divisions of The Andover Co., have announced the addition of Naphthol AS-LG to their lines of fast color specialties. Naphthol AS-LG, a substantive naphthol, produces shades from bright yellow to cordovan on cotton and rayon. Yarns in beam, package and warp form dyed with Naphthol AS-LG couplings are highly recommended for ginghams, checks and chambrays. Evaluation and performance tests with the new Naphthol AS-IG reportedly prove it to be visibly clean and bright, pure in quality, uniform and dependable. Couplings are fast to chlorine and peroxide.

(Request Item No. H-16)

Surface Abrasion Tester

The Taber Instrument Corp. has developed a new automatic model of the Taber Abraser for evaluating the resistance to surface abrasion of materials under cold, wet and dry conditions. Evaluating the resistance of surfaces to rubbing abrasion with this precision instrument, called the Model 174, is said to be readily accomplished by means of the Taber dual abrading wheels. These dual abrading wheels traverse a complete 360° circle on the surface to be tested, a feature necessary for accuracy relative to the weave, grain or pattern of the material. A variety of holders are supplied for testing various materials. A detailed brochure is available upon request.

(Request Item No. H-17)

Control System For Sliver Lap & Ribbon Lap Machines

Livingston & Haven Inc., developer and distributor of the Long pneumatic lap control systems, announces a similar device for sliver lap and ribbon lap machines. This new system can be applied to existing

Whitin and Saco-Lowell machines and will increase both lap size and lap quality, the company reports. In practical operation it has been proven that laps up to 30 lbs. may be produced, although the system is easily adjustable to permit the production of laps of any practical size.

The Long system operates on the principle of constant air pressure applied directly on the lap core. This pressure is adjustable to accommodate fibers of all sizes, and insures an even let-off of laps as well as insuring unvarying tension on the fiber.

(Request Item No. H-18)

Monapolene Concentrates

Mona Industries Inc. announces the availability of a series of solid, self-emulsifiable polyethylene complexes, identified as Monapolene Concentrates. These products are recommended as softeners and plasticizers for thermosetting resin finishes on rayon and cotton fabrics. They will improve tear strength and flat abrasion resistance without causing yellowing or discoloration. Monapolene A Concentrate also enhances hydrophobicity.

The following grades are available: Monapolene A Concentrate (anionic); Monapolene AHC Concentrate (anionic); Monapolene AAW Concentrate (anionic); and Monapolene N Concentrate (nonionic). Monapolene Concentrates are 100% active and overcome the problem of emulsion stability during shipping and storage, Mona points out. Substantial savings are realized through simplified production methods and reduction of shipping costs, since freight is paid only on the solid product. Bulletin No. 707 on the new products is available upon request. (Request Item No. H-19)

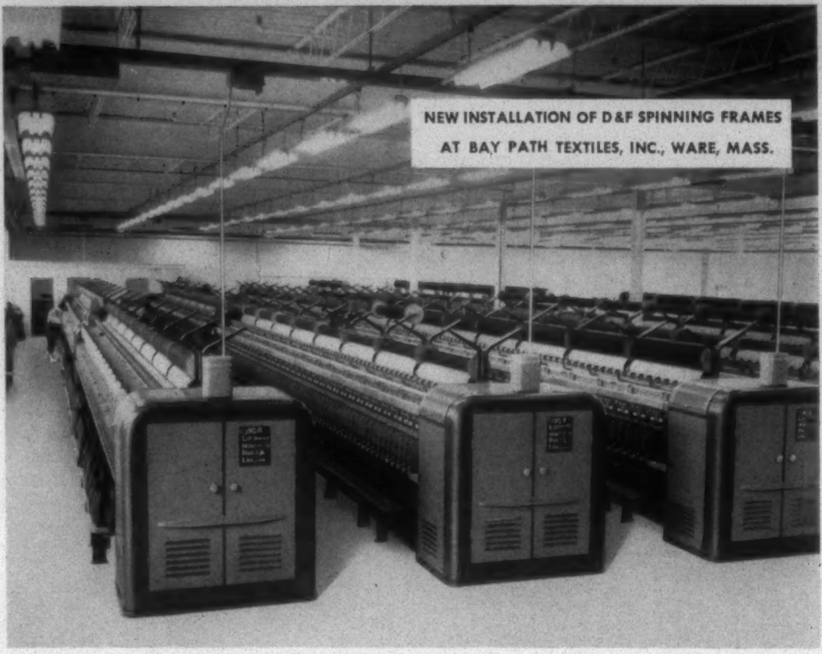
Two New Du Pont Dyes

Two new dyes have been announced by the Du Pont Co. One, Sevron Orange G, is an addition to its line of cationic dyes for Orlon acrylic fiber, and the other, Ponsol Gray N Double Paste, is an anthraquinone vat dye for use on cotton and rayon.

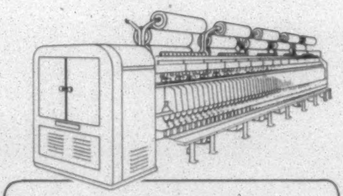
Ponsol Gray N produces a shade bluish-gray to black. It is of value for making medium gray to charcoal gray shades for use in dress goods, shirts and industrial uniform materials, or for other uses requiring good fastness to light, chlorine, washing and other dye destroying influences. It is especially recommended for dyeing piece goods by pigment-reduction methods employing pad-jig techniques or the Du Pont pad-steam continuous dyeing process.

Sevron Orange G produces a bright yellow shade of orange on Orlon with very good fastness to light and wet processing. This dye does not exhibit prototropic properties, so it can be applied from acid or relatively neutral dyebaths over the pH range of 4.0 to 8.0 without affecting its shades. Sevron Orange G is particularly recommended for use in the production of certain heavy shades on Orlon Type 42 such as bright shades of deep red in conjunction with the recently announced Sevron Brilliant Red B.

(Request Item No. H-20)


NEW INSTALLATION OF D&F SPINNING FRAMES
AT BAY PATH TEXTILES, INC., WARE, MASS.

Compare your wool spinning records with these **"coordinated production"** figures



ON DAVIS & FURBER SPINNING FRAMES LIKE THESE YOU CAN ACHIEVE:

	Carpet, Felts & Blankets	Apparel & Men's Wear
Front Roll Speeds RPM	150 to 200	75 to 150
Spindle Speeds RPM	2400 to 4000	4000 to 6200

Speed variations according to stock specifications

Profitable mill operation requires thorough, expert planning of both the necessary equipment and the method of operation. Here are positive ways Davis & Furber can help you obtain *such* "Coordinated Production" efficiency — vital in today's competitive market.

A Davis & Furber Technical Survey will include:

Recommendations for —

★ *An over-all production improvement plan.*

★ *Equipment additions or changes to match your stock and yarn specifications, together with the investment required.*

★ *Establishment of a preventive maintenance and operating program, to increase efficiency.*

Plus actual:

★ *Set up of equipment "in-the-mill."*

★ *Follow-up to assure peak performance and production.*

The benefits of Davis & Furber experience are yours for the asking. Contact us now at North Andover, Mass. or Charlotte, N. C. Ask for the D&F News to help with your planning.

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MACHINE COMPANY

TEXTILE MACHINERY DESIGNERS
AND MANUFACTURERS
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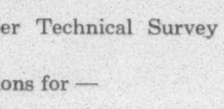

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MACHINERY MODERNIZATION • ACCESSORIES, SUPPLIES, SPARE PARTS • TECHNICAL SERVICE & CONSULTATION

For the Mill Bookshelf

One-Shot Lubricators

A 2-page service instruction sheet providing service information and operating instructions for built-in One-Shot lubricating system is offered by Bijur Lubricating Corp. Designated Type KI, the lubricator is a spring discharge piston pump mounted in a reservoir on the machine. These Bijur pull-type lubricators are widely used for centralized oiling of table and cross-feed ways of milling machines, grinders and similar equipment requiring closely controlled but infrequent oiling. Sections of the sheet discuss operation of the lubricators, maintenance, service, starting a new machine and types of oil to be used. A large photograph shows various components of the piston pump mechanism. Smaller photos show types of Bijur meter-units and 4 tables give specification details of hose fittings, tubing, junction and compression fittings used in Bijur lubrication systems.

Detailed service instructions and operating information on high-capacity spring piston pump lubricators are included in another 2-color, 2-page service instruction sheet offered by Bijur. Designated Type D, the Bijur One-Shot lubricators are operated by pushing down the handle against the stroke adjustment cap and allowing the spring to slowly discharge a predetermined amount of oil into the distribution system. These lubricators are adaptable to a wide range of machines requiring closely controlled but infrequent oil service to as many as 100 lubrication points. The instruction sheet discusses operation, starting a new machine, maintenance and service.

(Request Item No. H-21)

FIRST HIGH-POWER MAGNETOSTRICTION TRANSDUCER INTRODUCED—Johnson & Johnson engineer Morris Schwartz *(left)* is seen examining the first high-power magnetostriction-type transducer, designed specifically by Acoustica Associates Inc., of Glenwood Landing, L. I., N. Y., for large scale ultrasonic textile processing. The transducer was demonstrated to the textile trade for the first time at Acoustica's recent open house. This 400-watt, 25-kilocycle transducer can be grouped externally on existing process equipment and driven in tandem by electronic or rotary driven above-audible frequency generators ranging in power from 2,000 to 150,000 watts. It can be used with liquids at temperatures far above boil point, thus overcoming limitations inherent to barium titanate transducers. Acoustica's new transducers may well be the answer to many wet processing and dyehouse problems including scouring, emulsification, dyeing, stripping, coating and impregnation, degassing, particle size reduction and dispersing.

Chapman Static Eliminator

The Portland Co. recently issued its new Bulletin No. 77 which describes application of the Chapman static eliminator to warpers, slashers and creels. Use of this equipment will insure increased production, improved quality and reduced waste by safe, complete and inexpensive elimination of bothersome static, according to the firm.

(Request Item No. H-22)

Scott Testers Literature

Scott Testers Inc. has issued bulletins on 2 of its new machines, Model CET for tensile, compression and hysteresis in the range of 0-2,000 lbs., and Model STI, an improved Mooney shearing disc viscometer. Either of the bulletins may be secured through the use of the accompanying reader service cards. (Request Item No. H-23)

Lazenby Cop Winder

A descriptive sheet covering the recently-designed Model A-54 automatic cop winder is being offered by The F. A. Lazenby Co. The unit is described as having flexibility, versatility and rangeability heretofore unavailable in filling winders.

(Request Item No. H-24)

Dichlorophene Bibliography

A complete revised comprehensive bibliography of the literature on G-4® (Dichlorophene) has just been published by Sindar Corp. The bibliography, Technical Bulletin D-2, contains abstracts of some 109 scientific trade articles, as well as abstracts of 12 patents, both foreign and domestic. Technical Bulletin D-2 has been indexed so that any abstract on a given subject can be easily located. The index is divided into 7 major categories including: biological properties, compatibility, patents, physical and chemical properties, test methods, toxicological properties and uses. These categories are further subdivided to give the reader easy access to any particular subject of interest.

(Request Item No. H-25)

Automatic Weighing Feeders

W. D. Dodenhoff Co. Inc., producer of the FiberMeter automatic blending system, has published a bulletin describing its automatic weighing feeders for cards and garnets used in the production of non-wovens, carpet yarns, long-staple synthetics, woolens and cotton counts.

(Request Item No. H-26)

Custom Scientific Instruments

A new catalog, CS-56, describes in detail the 37 instruments produced by Custom Scientific Instruments Inc. for the testing of textiles and other materials. Included are abrasion testers, physical testers, precision checking instruments and scientific instruments. (Request Item No. H-27)

Arnel Slashing Formulas

Ten new formulas for slashing Arnel, bringing the total available to 16, are contained in technical bulletin TD-13A, recently prepared by Celanese Corp. of America. Latest information on warping, weaving and quilling of Arnel, compiled through extensive investigations during the last 15 months, is also contained in the publication.

(Request Item No. H-28)

Celanese Arnel Yarn

Latest information on the processing, carding, drawing, roving, spinning, plying, winding and coning of Arnel and Arnel blended yarns is contained in technical bulletin TD-14A, recently prepared by Celanese Corp. of America. Properties of spun Arnel yarn are listed, in addition to tenacity and elongation vs. twist relationships of Arnel and blends of Arnel yarn with rayon, Dacron, cotton and wool. The bulletin also lists 16 additional tints, making a total of 34, that have been found satisfactory for Arnel. (Request Item No. H-29)

Tramrail Booklet

A revised edition of Cleveland Tramrail engineering and application Booklet No. 2008-M has just come off the press. Replete with a large amount of illustrative material, the booklet covers the principal components of overhead materials handling systems. Track design and advantages of supporting it flexibly are described in detail. Included are formulas and figures for comparing various track sections. Among the subjects featured are various carriers for hand, electric and automatic operation; tractors; track switches; standard cranes, transfer cranes and gantry cranes; safety electrification; buckets and grabs.

(Request Item No. H-30)

Mathieson Chemicals

A 20-page booklet describing briefly the complete line of Mathieson chemicals for industry has been issued by Olin Mathieson Chemical Corp. During the past half-dozen years, Olin Mathieson has greatly enlarged and diversified its operations in the industrial chemicals field. The new booklet covers the company's organic, inorganic and specialty chemicals, listing characteristics, grades, containers and producing points for each. Principal uses are given for organic chemicals and specialties.

(Request Item No. H-31)

Monomers Folder

A new folder, F-40033, gives important physical properties and suggested uses for the 36 monomers that are available from Carbide and Carbon Chemicals Co., a division of Union Carbide and Carbon Corp. Polymers and copolymers prepared from these monomeric compounds are used in the manufacture of textile finishes, synthetic fibers, surface-coating materials and other resinous compounds that have many important applications. In addition to their extensive use in polymer applications, these compounds are reactive intermediates for the synthesis of many materials.

(Request Item No. H-32)

Testing Laboratory Facilities

To enable executives, engineers and others in industry and government to evaluate its capabilities, a new 72-page bulletin covering its services and facilities has just been published by the Electrical Testing Laboratories Inc. The bulletin contains more than 70 photographs and covers typical measurements and determinations made on hundreds of products and materials. In addition, it catalogs laboratory equipment available for limitless assignments in the fields of testing, applied research and engineering analysis. This information is subdivided into the areas of chemical, electrical, electronic, mechanical and physical, and photometric, radiometric and colorimetric testing.

(Request Item No. H-33)

Mercury Bulletins and Catalog

Four new 2-page, 2-color bulletins describe and give full specifications of 8 industrial trailers manufactured by Mercury Mfg. Co. Bulletin TR-101 covers Models A-610 and A-660, 5th wheel steer trailers of 4,000 and 6,000-lb. capacity, respectively. Bulletin TR-102 covers the Models A-510 and A-520, 5th wheel steer trailers of 4 and 6-ton capacity. The heavy and extra-heavy duty trailers are described in Bulletin TR-103. They are Models A-614 of 10-ton capacity

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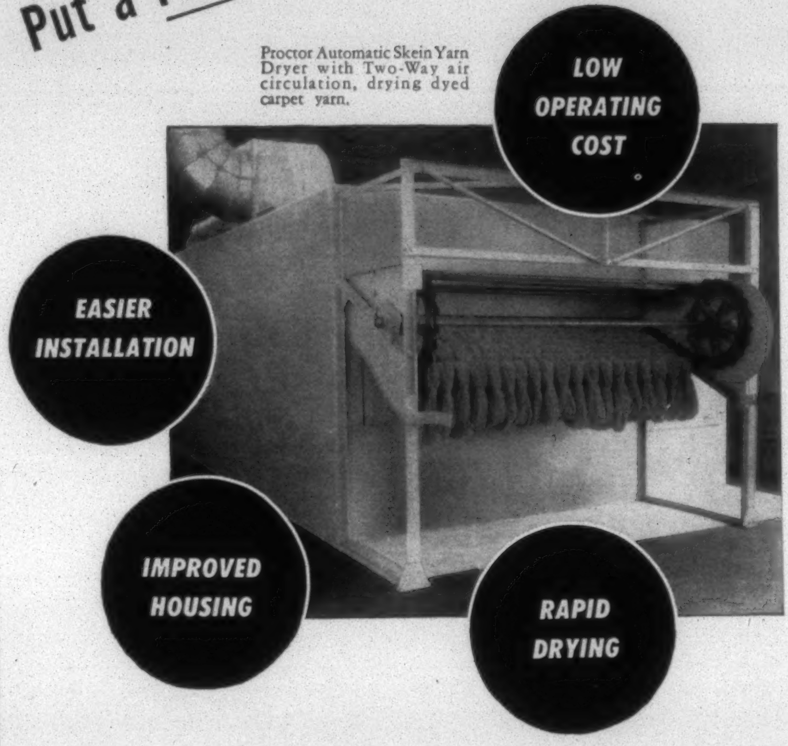

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and Model A-443 of 30-ton capacity. The fourth bulletin, TR-104, covers Mercury's dump triucks, Model A-370, a caster-steer truck and Model A-670, a 5th wheel steer truck. Both dump trucks are available in 3 capacities, ½ cu. yd., ¾ cu. yd. and 1 cu. yd.

A 52-page product catalog is also recently available from Mercury. This reference book includes complete specifications and illustrations of the entire line of current model fork lift trucks, platform lift trucks, load-carrying trucks and industrial tractors and trailers. Developed through 45 years of materials handling experience, the equipment listed in Catalog 400 has gained wide acceptance in various industries. The catalog is comprised of 3 major sections: fork and platform lift trucks, gasoline and electric tractors, and industrial trailers and hand trucks. (Request Item No. H-34)

Towmotor Operator's Guide

A pocket-sized operator's manual covering subjects of special interest to owners and operators of Towmotor fork lift trucks has just been completed and is now available on request from Towmotor Corp. Conveniently indexed for ready reference, the new operator's manual has sections devoted to the basic specifications and construction features of Towmotor lift trucks and Towmotor accessories, as well as detailed operating instructions, valuable safety tips and proper handling techniques. The booklet also covers Towmotor preventive maintenance procedures and has a handy 32-point maintenance check-list.

(Request Item No. H-35)

Hi-Lo Dockboard Catalog

Information about automatic dockboards for loading docks is contained in a new Kelley Co. 4-page catalog. The catalog, D-160, explains and diagrams the Hi-Lo features for both the recess models and the packaged models as well as supplying vital information relative to faster, safer, easier operation of handling equipment used to load and unload carriers.

(Request Item No. H-36)

Unisorb Booklet

A new 4-page folder entitled "Facts About Anchoring Precision Machines on Type T Unisorb" has been released by The Felters Co. It is the fourth in a series of "Facts" booklets illustrating the installation cost savings and vibration reduction which industrial companies have experienced by using Unisorb as a mounting for machinery. Type T Unisorb has been especially developed by The Felters Co. for mounting and anchoring precision machine tools and machines having long central drive shafts. It is engineered to specific density and firmness so that the mounted machinery will retain its level during operation. The new booklet highlights 5 special benefits available through the use of Type T Unisorb. Noise is drastically reduced, machine life is increased because of reduced jarring and wearing, faster machine speeds are made practical, operator efficiency is increased by cutting fatigue, and greater machine accuracy results in fewer rejects. The Type T "Facts" folder also has diagram and instructions telling how precision machines are mounted. Bolts and lag screws are eliminated, leveling is easily attained and installation costs are cut as much as 30%.

(Request Item No. H-37)

Dayco Textile Products

A complete line of natural and synthetic rubberized products for textile machinery is described in a new 26-page booklet prepared by the Dayton Rubber Co. for the textile industry. The 8 by 11½-inch brochure contains photographs and detailed information on a wide variety of items designed to improve spinning and weaving operations, reduce operating costs and increase profits of the nation's textile mills. It covers products for spinning frames such as roll coverings, woolen and worsted cots, automatic cot grinders, long draft aprons, rub aprons, endless condenser tape and slasher rolls. Also included are weave room products—loop pickers, check straps, lug straps, sweepsticks, hold-up straps, reversible picker bumpers, spindle rod bumpers and washers, odd shaped bumpers, frog and loom bumpers, bobbin stripper blades, take-up roll coverings, doll pickers, harness straps, jute loom pickers and bow pickers. The reader is taken on a photographic tour of Dayton's rubber research laboratory where research scientists, physicists, chemists, engineers and skilled technicians are working with natural and synthetic rubbers, fabrics and many other ingredients in a constant effort to develop new and improved textile products.

(Request Item No. H-38)

Traffic Department Organization

(By John H. Frederick, University of Maryland; Chilton Publications, Philadelphia, Pa.; 160 pps., 11 illustrations; $6.00)

This work, to be published in September, points out that transportation generally is the largest single cost item left in the area of controllable costs today. The book notes that transportation takes 27 cents out of every sales dollar, and is thus directly related to sales, production, research, purchasing and other top policy corporate matters. Actual case histories are given to show how a new concept of traffic management has pared costs and produced savings, not only in freight but also in other areas.

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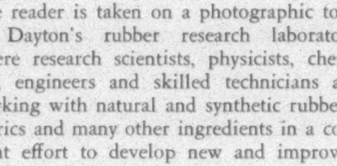

Serving The Textile Industry

H. F. Livermore Building New Greenville Facilities

Ernest W. Fanning

The H. F. Livermore Corp., manufacturer of loom parts, has announced that it will open a new warehouse, Southern sales offices and pilot weave room at Greenville, S. C., about Oct. 1. The new facilities, being built by the Daniel Construction Co., Greenville, will be located on the super-highway, about 2 miles from the Greenville city limits. The company, with executive offices and plant at Boston, Mass., has for some years maintained a distribution warehouse at Greenville. Ernest W. Fanning, Southern sales manager for the firm, will have his office in the new building and will head the entire operation. He has been associated with the company 34 years.

Dewey & Almy Establishes Warehouse In Atlanta, Ga.

Southeast warehouse facilities for the organic chemicals products of the Dewey and Almy Chemical Co. Division of W. R. Grace & Co. have been set up in Atlanta, Ga. According to Charles E. Brookes, sales manager of organic chemicals, arrangements have been made with Bonded Service Warehouse Inc., 225 Moore St., S. E., to stock the line of Darex polyvinyl acetate polymers and Everflex copolymers. "For our customers in the Southeast this means 24-hour emergency deliveries will now be possible," Mr. Brookes said. "Shipping time on normal deliveries will also be improved by 1 to 3 days, depending on location." Dewey and Almy polyvinyl acetates are widely used in the manufacture of textile sizings.

F. C. Huyck & Sons Acquires Waldorf Instrument Corp.

F. C. Huyck & Sons, Rensselaer, N. Y., has announced the purchase of all outstanding capital stock of the Waldorf Instrument Corp., Huntington Station, L. I., N. Y. Terms of the transaction were not disclosed. Huyck President G. R. Holden said the present Waldorf management, headed by H. W. Waldorf, president and founder of the company, and B. A. Parkhurst, executive vice-president, will continue unchanged. The company, founded in 1934 by H. W. Waldorf, will continue to design and supply hydraulic servo components for jet aircraft engines and helicopters, and various electronic, hydraulic and electro-mechanical control devices.

Huyck, founded in 1870, manufactures papermakers' felts and other woven fabrics for specialized industrial uses. In addition to its main plant in Rensselaer, the company operates plants in New Hampshire, Vermont and Canada. In June it opened a new 200,000 sq. ft. plant in Aliceville, Ala., largest plant in the South devoted exclusively to the manufacture of engineered fabrics for industry. "The marriage of the Huyck company with Waldorf Instrument Corp," Mr. Holden said, "is in line with our policy of market diversification."

American MonoRail Building New Facilities In Charlotte

The American MonoRail Co. will occupy new offices and warehouse in Charlotte, N. C., beginning Sept. 1. The new facilities will be located at 3121 Monroe Rd., phone EDison 4-3088. E. Forrest Kulp, district manager, will head up the new operation.

Watson & Desmond In New Quarters

C. E. Watson of Watson & Desmond, Charlotte, N. C., has announced that the firm has moved from 301½ W. Fourth St. to its new offices at 220 W. Fourth St. Watson & Desmond Inc. and WATDES Corp. will also occupy these same offices, according to the announcement.

Hennis Freight Lines Wins "Gateway" Battle

In a precedent setting action, the Interstate Commerce Commission has given Hennis Freight Lines of Winston-Salem, N. C., permission to lift its "gateway" restrictions at Greensboro, N. C., and Delphos, Ohio. Under the restrictions, all Hennis shipments originating in the Southern area have had to be channeled through Greensboro, and similarly, those originating in the Northern area have had to be channeled through Delphos. For instance, a shipment originating in Richmond, Va., had to be carried to Greensboro, a distance of more than 300 miles, and then directed northwards, adding many out-of-the-way miles to shipments in both directions. Now Hennis trucks may proceed from point to point over direct, unassigned routes.

Shirley H. Mitchell, Hennis president, hailed the action as a "progressive move which will permit Hennis to keep abreast in efficient, economical transportation throughout the areas it serves." Under the arrangements approved by the I.C.C., Charleston, W. Va., will serve as a Hennis cross-roads for both northbound and southbound shipments. "However," Mr. Mitchell said, "we feel that this arrangement will add to the efficiency of our operations by providing a checkpoint for all our trucks and for meeting any problems which may arise enroute."

Hennis operations are centered in North Carolina, South Carolina and Virginia in the South, and in Ohio, Indiana, Michigan and the Chicago commercial zone in the North. Other connections to the Southwest, South and Southeast are maintained through Charlotte, N. C., and Greenville, S. C. Hennis also handles interline freight from the West through Chicago and Indianapolis, and from New England areas and New York through Philadelphia and Baltimore.

J. M. Nash Purchases Rolling Equipment Firm

J. M. Nash Company Inc., Milwaukee, Wis., manufacturer of special machinery for the textile and allied industries, announces the purchase of the Dyken Mfg. Co., West Bend, Wisc., producer of rolling machines. Operations will be continued as a wholly-owned subsidiary in the West Bend factory, and the trade name Dyken will be retained. Charles P. Dyken, founder and former president, will remain with the organization as vice-president in charge of research and development.

Dyken is widely recognized for the development and production of fully automatic rolling machines and attachments designed to serve the requirements of textile processors. A distinctive feature of Dyken equipment is the elimination of the need for mandrels or starting bars in the rolling operation. Controlled and operated by push-buttons, the rolling machines are widely adjustable to suit the materials to be rolled. Use of Dyken rollers is featured as saving storage and shipping space, lightening the weight of rolled materials and cutting down the cost of packing material while speeding rolling operations.

Southeastern Loom Works To Move To Greenwood

Southeastern Loom & Machine Works, Greenville, S. C., a division of Abney Mills, will build a new, modern, 1-story plant in Greenwood, according to Abney officials. Work on the new building is to begin immediately so that the move from Greenville can be completed by Dec. 31. Southeastern employs 300 people and has an annual payroll of approximately $1 million.

The new plant will be located on W. Alexander Ave. adjacent to the Georgia & Florida Railroad. The tract of land contains enough acreage to provide ample space for parking and future expansion. The buildings will contain approximately 130,000 sq. ft. of floor space and will be air

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conditioned. Southeastern manufactures looms, loom parts, card and drawing coilers, spinning frame pulley spindle drives, centrifugal and gear size pumps, hydraulic presses, electro-magnetic loom drives with electronic control, and special machinery for the textile industry. The company acts as sales agents for the leading manufacturers of roving cans, loom bolts and nuts, leather, picker sticks, lays and hand rails, electric motors and switches, S & C hooks, springs, screws, bearings, oilite bushings, electrodes, and lug straps.

Excel Textile Supply Co. Now Expanding Facilities

Excel Textile Supply Co., Lincolnton, N. C., is adding 13,000 sq. ft. of floor space to its plant, bringing total production space to 28,000 sq. ft. The firm produces roving and doff boxes, beam racks, pin trucks, rack trucks, waste can trucks, waste boxes and many other items used in textile plants. The firm is a partnership of 6 brothers—Robert C. Eurey, president; N. W. Eurey, vice-president; Charles W. Eurey, secretary-treasurer and general manager; Cecil M. Eurey, assistant secretary-treasurer; Paul H. Eurey and David B. Eurey.

Karl H. Inderfurth Co. Moves To New Quarters

Karl H. Inderfurth Co., Charlotte, N. C., has moved from the Liberty Life Bldg. to larger quarters at 2842 Selwyn Ave. The firm represents Metlon Corp., Collins Bros. Machine Co., Lindly & Co. and Sill Industries.

Smith, Drum Consolidates Sales & Engineering Divs.

Smith, Drum & Co., Philadelphia, Pa., manufacturer of dyeing and extracting machines, has combined functions of its sales engineering and engineering divisions, with Albert Bajian named to the new post of chief engineer and sales manager. The combined setup will allow sales engineers to become acquainted with particular problems firsthand rather than through the sales force as previously, the firm points out. Mr. Bajian had been sales manager, but his background had been mechanical engineering before he assumed that post.

Avisco Cellophane Opens New Atlanta Warehouse

A new office-warehouse for Avisco cellophane has been opened in Atlanta, Ga., by the Avisco Film Corp., a wholly-owned subsidiary of the film division of American Viscose Corp. The large, modern structure at 190 Ottley Drive, N. E., replaces the building at the 748 Lee St., S. W., address. Forty-six employees occupy the new facilities which cover 36,000 sq. ft. of office and warehouse space. States covered by the Atlanta office include Florida, Georgia, Alabama, Mississippi, Arkansas, Louisiana, Tennessee, South Carolina, North Carolina and parts of Virginia and West Virginia. With 100% more warehouse space, the new facilities will enable the company to provide even better service in the greatly expanding Southeastern states. Sales of cellophane in this territory, the company reports, have increased 48 times in the past 25 years. Richard E. Reynolds, manager of the Atlanta operation, joined the company in 1934 and has been in his present post since 1948.

Reliance Electric Opens New Sales Office

The Reliance Electric & Engineering Co., Cleveland, Ohio, manufacturer of electric motors and variable-speed drives, has announced the opening of a new sales office in Dallas, Tex. William K. Schlotterbeck has been transferred from his post as district manager in Buffalo, N. Y., to head up the new Dallas office. Newly-appointed as sales engineers are Joel G. King Jr. (Atlanta); Alfred W. Fairer (Charlotte); and Donald G. Gordon (Birmingham, Ala.).

Continental Can Announces Metallic Yarn Production

The Shellmar-Betner Division of Continental Can Co. has announced it will produce metallic yarns of all 3 basic types—metallized Mylar, foil-laminated Mylar and foil-

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laminated acetate butyrate. All 3 types are non-tarnishing, fast to light and brilliant. The Mylar laminations, especially metallized Mylar, have added softness, more brilliance, higher strength and greater resistance to extreme conditions of wear, washing and finishing. As a prime producer, Shellmar-Betner will manufacture these materials from beginning to end, using its vast metallizing, laminating and slitting facilities.

Edgar W. Dunham Jr., with a background of 15 years of textile experience, will serve as metallic yarn sales specialist for Shellmar-Betner, headquartered at 100 E. 42nd St., New York 17, N. Y. Mr. Dunham was previously connected with the Metlon Corp. and Burlington Industries and is a textile engineering graduate of Clemson College.

Acetate butyrate yarns, composed of a lamination of aluminum foil between clear acetate butyrate films, are quite well known and have been in use for the past 10 years. They replaced the imported and tarnishable pure metal yarns. Newer are the Mylar laminations composed of a lamination of metallized Mylar film and clear Mylar film, or a lamination of aluminum foil between clear Mylar films.

Diehl Mfg. Opens New Southern Headquarters

The Diehl Mfg. Co. of Somerville, N. J., has opened a new Southern district office and warehouse in Chamblee, Ga. Diehl, manufacturer of a wide range of industrial-type electric motors as well as electrical ventilating fans, is the electrical division of the Singer Mfg. Co., maker of the world-famous Singer Sewing machines. Formerly located at 180 Whitehall St., S. W., in Atlanta, Ga., Diehl's new Southern district office and warehouse is in the recently completed Singer Bldg. at 4951 Peachtree Industrial Blvd. in Chamblee. The new headquarters is under the management of Edwin F. Graham. The company will continue to maintain a branch of the Chamblee office at 1514 Hutchison Ave., Charlotte, N. C., under the management of A. J. Murphy.

Bureau Of Standards To Move To Maryland

A tract of approximately 550 acres of land near Gaithersburg, Md., has been selected for relocation of the Washington laboratories of the National Bureau of Standards. The move will permit the bureau to plan new buildings to replace present research facilities, which over the past 50 years have become inadequate for current needs. Congress appropriated funds for site acquisition and preliminary planning early in June and transfer of operations to the new location is expected to be completed in about 5 years. The Bureau has occupied its present site on Connecticut Avenue in Washington since 1903.

It is expected that the new location will make possible a more modern research operation in structures that can be very efficiently managed. In addition, the new site will provide the benefits of a rural location where scientific programs can be undertaken without interfering in community life and without urban interference to important bureau projects. The rural location will remove the bureau's work from the variety of mechanical, electrical and atmospheric disturbances present in a city and will reduce the effect of these forces upon precise scientific measurements.

Harry Miller Corp. Completes Expansion

In order to meet the growing demand for its chemical products, oils and greases used by the textile and other industries, Harry Miller Corp. has recently added 33,200 sq. ft. of space for increased production to its existing plant at 4th and Bristol Sts., Philadelphia 40, Pa. Included in the company's expansion program is the addition of production equipment such as stainless steel mixers including a new 15-barrel stainless steel horizontal mixer.

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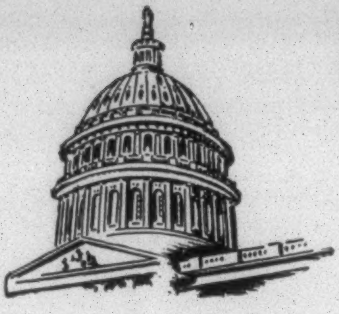


WATCHING WASHINGTON

[Exclusive and Timely News from the Nation's Capital]

By standards of the last 20 years, this was a "good" Congress, and the most extravagant in peacetime history as well. The record is largely favorable, both in the nature of bills passed, and bills defeated, but it spent more money than any Congress has done except in wartime. It approved 103 requests of the President, and rejected 121 others. It was not intensely partisan, even for an election year, but legislative battles were plentiful.

Many of the bills that were fought over, and defeated, will come up in the early stages of the new Congress. The school construction aid and "civil rights" bills are high on the agenda of the next Congress, and the battle between public ownership and private enterprise will continue. If the Republicans gain control of either the House or Senate, or both branches, the chairmen of committees will change, and controversial bills that failed in this session will be handled by new leaders.

Both branches are touchy because a tax reduction bill did not pass in this session, and because of the high spending record. Studies looking to tax revision, with open hearings while the campaign is in progress, are being started by the House Ways and Means Committee.

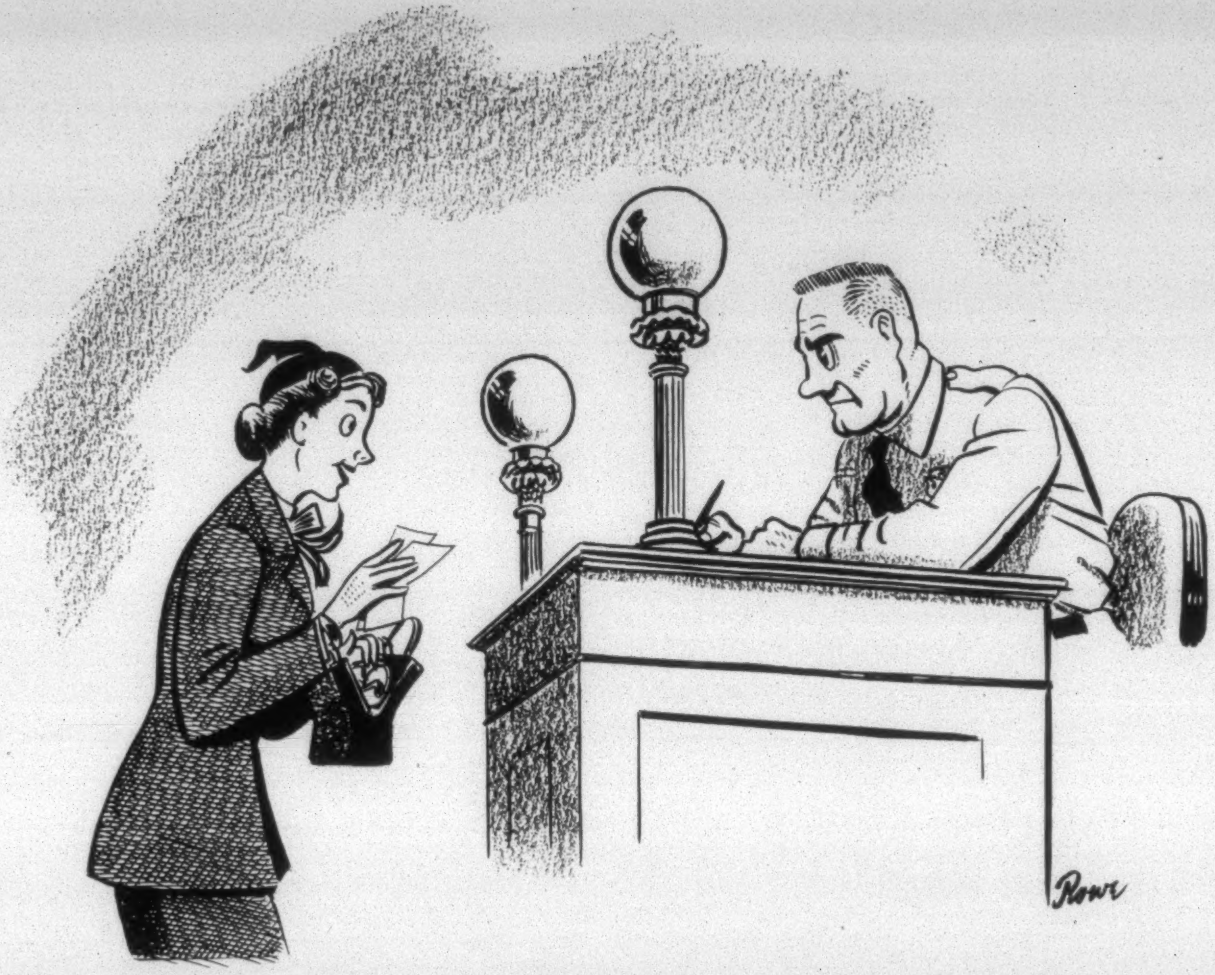
Foreign economic aid will continue next year on a slightly reduced scale from last year. The House originally granated $3.8 billion of the President's initial $4.9 billion request, but the Senate raised the sum to $4.5 billion. The House Appropriations Committee refused to approve more than $3.4 billion, a sum that was later increased in conference with the Senate to $3.7 billion.

A.F.L.-C.I.O. is ready to wade into state campaigns with the aim of electing legislators who are "friendly" to labor. About 35 senators are looked upon now as "friendly," and the unions want to increase this number by 12. In the House about 180 members are held to be "friendly," and an effort will be made to add 41 to that number.

Platform proposals of Labor Secretary Mitchell to the Republican national convention have caused amazement among business men. Hope had been that Mr. Mitchell would sponsor a strong declaration for better understanding, elevating the tone and conduct of unions, calling for full security of union pension funds, and for more guarantees for the rights of union members. Instead, his proposals appeared to come from A.F.L.-C.I.O., and were silent on the public interest in problems facing both wage earners and managements.

In their implication, the Mitchell proposals would remove all labor issues from jurisdiction of the states except for very small concerns. They would seem to nullify state right-to-work laws, weaken provisions of the Taft-Hartley Law, and tighten the grip of unions on workers everywhere, with virtually compulsory unionism in every shop.

Under changes in the Social Security law, payroll taxes for employers and employees alike will increase to 2 1/4 per cent in January. About 800,000 women are placed on old age retirement lists through reduction in eligible age from 65 to 62.



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1926 "IF IT'S PAPER" 1956

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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; three years payable in advance, $3.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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Profits Picture Needs A Wider & Clearer Public Understanding

Many words, printed and oral, are bandied about on the subject of textile industry earnings, sometimes perhaps with a degree of innocence, or again, quite frequently, by those for whom twisting the facts, or ignoring the whole facts, constitutes a matter of decided self interest.

The press comment generally on the first quarter financial report for manufacturing corporations, issued jointly by the Federal Trade Commission and the Securities and Exchange Commission, singled out the textile industry as one of a few whose dollar earnings has shown improvement.

From the standpoint of featuring what is new or "news" in such a report, this is quite logical and understandable on the part of the lay press, but a more complete picture, and certainly a fairer one, would have been presented if deadline-conscious reporters and commentators had taken time to familiarize themselves with the background insofar as it pertains to the textile industry.

Certainly the first quarter figures show textile earnings were somewhat improved, but the plain fact is that they were still 40 per cent below the all-industries average, which confirms the urgency of the mills' dilemma in the face of unrestricted cheap-labor imports, principally from Japan.

And the import situation, obviously, has worsened materially since the first quarter, with several mills that produce cloth categories on which the Japanese have pinpointed their assaults, having closed down permanently, or having been compelled to resort to production and employment cutbacks. Several rather large plant construction or expansion programs also have been cancelled or held in abeyance in the face of so critical and uncertain a future.

In respect to the earnings picture, a recent study of the textile industry financial situation by the Federal Reserve Bank of Richmond is significant and timely. The bank notes that "inadequate earnings, eating into capital, and increased dependence upon borrowed funds have marked the financial developments of the textile mill products industry in the United States in recent years. Unfortunately, this is an often-repeated story in the history of this vitally important industry."

As a result in part of a lower level of sales in two of the last three years, retained earnings of the textile industry covered only a little more than one-fourth of total capital outlays by the industry in the period 1953-55. In 1953 and 1955, retained earnings amounted to about 50% of capital expenditures, but in 1954 cash dividends exceeded net profits, and there were no earnings available for reinvestment, the bank's analysis reveals.

We quote directly from the study, presented in the Fifth Federal Reserve District's *Monthly Review*:

"The absence of earnings in the latter year together with the inadequacy of depreciation allowances to meet capital outlays led the textile industry to draw heavily on liquid asset holdings. In fact, reduction of cash and government securities constituted the second largest single source of funds in 1954. As in the other two years, depreciation allowances provided the largest source of funds and were within five per cent of the total invested in plant and equipment over the three-year period. . . .

"For the three-year period the principal—practically the only—external source of funds was split equally between the sale of long-term debt securities and short-term commercial bank loans. The combined capital stock and capital surplus accounts (not available separately) showed a decline in the last three years, and both long-term bank debt and funds from trade suppliers were reduced.

"In 1955, however, increased requirements stemming from inventory accumulation and extension of credit to customers led to increases in both short and long-term debt. Short-term bank loans rose sharply to the highest level in five years. Another external source of funds that became available in 1955 for the first time in three years was credit on open book account."

The bank's study reveals that the ownership interest in the textile industry has been declining slightly, and the creditorship interest has been rising slightly over most of the postwar period, and it concludes that the increase in the extent to which the textile industry is trading on its equity —using long-term debt—appears to have been about as much of an increase as was possible in view of the profits record of the industry.

The analysis goes on to point out that among 23 major manufacturing industries, textile mill products had the lowest rate of profits after taxes on stockholders' equity in ten of the 15 quarters from the beginning of 1952 through the third quarter of 1955. In four other quarters it had the next-to-lowest rate of return, and in one quarter its rate was the third worst. In none of the 15 quarters was the rate of return under five per cent.

In the case of net profits after taxes as a per cent of sales, textiles had the lowest rate among the 23 industries in four of the 15 quarters and was never better than fourth worst in 13 of the 15 quarters. Its best achievement was with a rate that was the sixth lowest. Such a picture compels the *Monthly Review* to remark:

"This is hardly a record to facilitate the sale of creditorship securities by an industry that, although the most efficient in its line in the world, must continue to make multi-million dollar outlays for the replacement of old and obsolete buildings and machinery, spend large amounts for research in developing new methods and new products, and incur heavy expenses in widening its domestic market and in meeting severe foreign competition."

It would indeed be a great benefit to the industry if the whole facts or the whole picture could be widely disseminated and gotten before the general public, not necessarily in great detail, but in simple, easily understandable and unequivocal terms.

Only a few years ago the mills of America bought and used an average of 6½ million bales of cotton a year. Today the average consumption runs close to nine million bales. That's nearly a 40 per cent increase in consumption of cotton. And, of course, that is matched by an even greater increase in all the man-made fibers. The production of textiles runs close to 12 billion, 600 million yards a year, exclusive of wool.

TEXTILE INDUSTRY SCHEDULE

— 1956 —

Sept. 6-7 (Th-F)—Fall meeting, **THE FIBER SOCIETY**, Warwick Hotel, New York City.

Sept. 10-15 (M-Sa)—**PERKIN CENTENNIAL** (sponsored by various professional societies and trade associations), Waldorf-Astoria Hotel, New York City.

Sept. 13-15 (Th-Sa)—National convention, **A.A.T.C.C.**, Waldorf-Astoria Hotel, New York City.

Sept. 20-21 (Th-F)—Annual outing, **CHATTANOOGA YARN ASSN.**, Lookout Mountain Hotel, Chattanooga, Tenn.

*Sept. 27-28 (Th-F)—**TEXTILE QUALITY CONTROL ASSN.**, Sedgefield Inn, Greensboro, N. C.

Sept. 27-28 (Th-F)—Annual meeting, **COMBED YARN SPINNERS ASSN.**, Cavalier Hotel, Virginia Beach, Va.

Oct. 1-5 (M-F)—19th **SOUTHERN TEXTILE EXPOSITION**, Textile Hall, Greenville, S. C.

Oct. 3-4 (W-Th)—**CHEMICAL FINISHING CONFERENCE** (sponsored by National Cotton Council), Hotel Statler, Washington, D. C.

Oct. 6 (Sa)—Annual meeting, **PIEDMONT SEC., A.A.T.C.C.**, Charlotte (N. C.) Hotel.

Oct. 11-12 (Th-F)—Annual meeting, **NORTH CAROLINA TEXTILE MFRS. ASSN.**, The Carolina, Pinehurst, N. C.

*Oct. 13 (Sa)—**EASTERN CAROLINA DIV., S.T.A.**, North Carolina State College School of Textiles, Raleigh.

Oct. 13 (Sa)—**TEXTILE OPERATING EXECUTIVES OF GEORGIA**, Hightower Textile Building, Georgia Institute of Technology, Atlanta.

Oct. 16-19 (Tu-F)—**COMMITTEE D-13 ON TEXTILES, AMERICAN SOCIETY FOR TESTING MATERIALS**, Warwick Hotel, New York City.

Oct. 18-19 (Th-F)—**SOUTHERN TEXTILE METHODS AND STANDARDS ASSN.**, The Clemson House, Clemson, S. C.

Oct. 22-26 (M-F)—**NATIONAL SAFETY CONGRESS AND EXPOSITION** (sponsored by National Safety Council), Chicago, Ill.

Oct. 25-26 (Th-F)—Annual meeting, **CARDED YARN ASSN.**, Hotel Fort Sumter, Charleston, S. C.

*Oct. 27 (Sa)—**PIEDMONT DIV., S.T.A.**, North Carolina Vocational Textile School, Belmont.

Oct. 27 (Sa)—**ALABAMA TEXTILE OPERATING EXECUTIVES**, Thach Auditorium, Alabama Polytechnic Institute, Auburn.

Nov. 1-2 (Th-F)—**PERSONNEL DIV., S. C. TEXTILE MFRS. ASSN.**, Ocean Forest Hotel, Myrtle Beach, S. C.

*Nov. 3 (Sa)—**SOUTH CAROLINA DIV., S.T.A.**, Clemson House, Clemson, S. C.

‡Nov. 10 (Sa)—**NORTHERN NORTH CAROLINA-VIRGINIA DIV., S.T.A.**

*Nov. 26-30 (M-F)—**NATIONAL EXPOSITION OF POWER AND MECHANICAL ENGINEERING** (sponsored by American Society of Mechanical Engineers), New York Coliseum, New York City.

Nov. 27-30 (Tu-F)—**NATIONAL CHEMICAL EXPOSITION** (under auspices of American Chemical Society), Cleveland (Ohio) Public Auditorium.

Dec. 1 (Sa)—**SOUTH CENTRAL SEC., A.A.T.C.C.**, Hotel Patten, Chattanooga, Tenn.

Dec. 4-5 (Tu-W)—Conference, **COATED FABRICS DIV., SOCIETY OF THE PLASTICS INDUSTRY**, Hotel Commodore, New York City.

Dec. 8 (Sa)—**SOUTHEASTERN SEC., A.A.T.C.C.**, Atlanta, Ga.

— 1957 —

Jan. 28-29 (M-Tu)—Annual meeting, **NATIONAL COTTON COUNCIL OF AMERICA**, St. Louis, Mo.

Feb. 27-Mar. 1 (W-F)—**COTTON RESEARCH CLINIC** (sponsored by National Cotton Council), General Oglethorpe Hotel, Savannah, Ga.

Apr. 4-6 (Th-Sa)—Annual convention, **AMERICAN COTTON MFRS. INSTITUTE**, Palm Beach Biltmore Hotel, Palm Beach, Fla.

Apr. 9-11 (Tu-Th)—**NATIONAL PACKAGING CONFERENCE AND EXPOSITION** (sponsored by American Management Assn.), International Amphitheatre, Chicago, Ill.

May 1-2 (W-Th)—Spring meeting, **THE FIBER SOCIETY**, Clemson House, Clemson, S. C.

June 20-22 (Th-Sa)—Annual convention, **SOUTHERN TEXTILE ASSN.**, Ocean Forest Hotel, Myrtle Beach, S. C.

*Nov. 14-16 (Th-Sa)—National convention, **AMERICAN ASSN. OF TEXTILE CHEMISTS & COLORISTS**, Boston, Mass.

— 1958 —

*Jan. 27-28 (M-Tu)—Annual meeting, **NATIONAL COTTON COUNCIL OF AMERICA**, Phoenix, Ariz.

Apr. 10-12 (Th-Sa)—Annual convention, **AMERICAN COTTON MFRS. INSTITUTE**, Hollywood Beach Hotel, Hollywood, Fla.

*May 26-29 (M-Th)—**NATIONAL PACKAGING CONFERENCE AND EXPOSITION** (sponsored by American Management Assn.), New York Coliseum, New York City.

*June 19-21 (Th-Sa)—Annual convention, **SOUTHERN TEXTILE ASSN.**, The Grove Park, Asheville, N. C.

‡Fall—National convention, **AMERICAN ASSN. OF TEXTILE CHEMISTS & COLORISTS**, Chicago, Ill.

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday; (Su) Sunday

Listed for the first time this month.** **‡Tentative listing.** **†Changed or corrected from previous issue.

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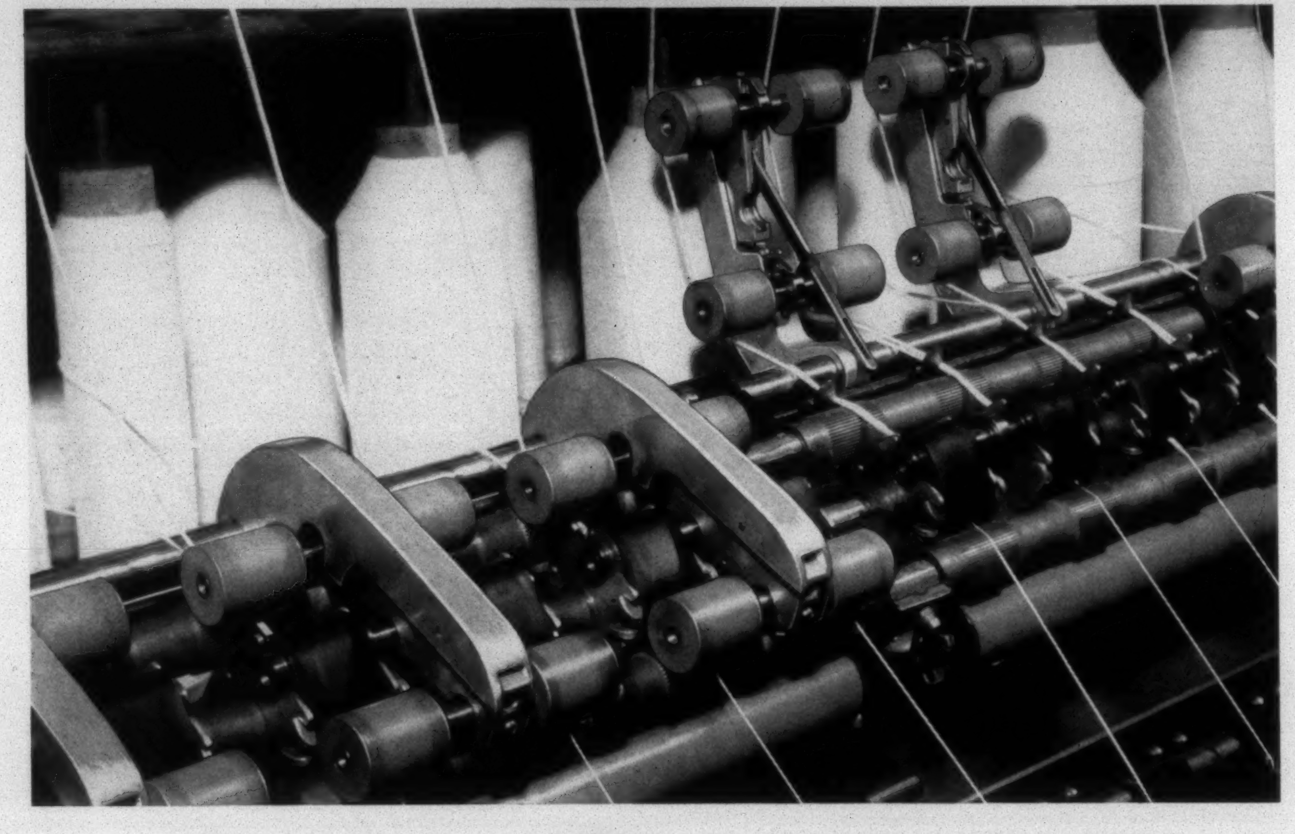

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textile bulletin

VOL. 82 AUGUST 1956 NO. 8

Today's Cotton Research in Tomorrow's Mills

By EMMETT W. BRINGLE, Technical Department, National Cotton Council of America

Emmett Bringle is a former cotton mill man who currently is known best for his handling of the annual Cotton Research Clinic. He presented the accompanying remarks before this Spring's meeting of the Piedmont Division, Southern Textile Association, at Hickory, N. C.

COTTON research reaches literally from the seed breeder to the ultimate consumer. Narrowing the subject down considerably, these observations will be limited to research of primary interest to operating mill men: developments (1) in the cotton fiber itself and (2) in cotton mill machinery which will do a more efficient, better quality job of manufacturing.

A look at the research picture shows readily apparent areas of particular importance to a natural fiber. Along with advances in cotton fiber qualities, mill processing will be most strongly influenced by improved opening and picking, carding and combing machinery. This is not to say that tremendous research gains cannot be made in other mill operations, and promising developments in these areas will be mentioned. However, cotton, as opposed to its man-made competitors, has the greatest stake in machines which separate, clean and remove non-spinnable fibers.

Cotton Fiber Research

Considering, first, improvements which are being sought in the raw material itself, advances and future trends may be predicted in three areas: (1) Breeders' efforts are aimed at hardy, high-yielding plants for the farmer and lint qualities which will enable the spinner to increase his efficiency and produce yarns and fabrics of superior quality. (2) Research on new fiber testing instruments and methods will supplement human judgment and make the selection of ideal cottons a more precise undertaking. (3) The final line of raw fiber work involves preparation and handling of cotton prior to its delivery at the mill door. The aim of this research is assurance that bales may arrive at the mill undamaged by heat, bacteria or mechanical processing, and free from contamination. There is much to be accomplished in each of these fields. Progress may sometimes seem painfully slow to the mill man; but current research forecasts a hopeful future for raw cotton.

The most dramatic recent advance in cotton breeding has taken place in extra-long staple, where Pima S-1, or Supima, has entered the world market as an American variety superior to Egyptian Karnak. Supima's outstanding fiber length uniformity contributes materially to yarn smoothness and strength and is generally accompanied by lower waste removal in carding and combing. A hopeful sign for this particular variety is formation by Western growers of the Supima Association which will seek improvements in handling and preservation of lint quality and undertake sales promotion activities in behalf of Supima products.

In Upland cottons the advances are less spectacular but very surely in the direction of better quality. Several varieties released last year by the commercial seed breeders and college experiment stations offer five to ten per cent increases in yarn strength.

While the publicity given to so-called "Super Cottons" such as Hopi Acala may have been somewhat premature, these cottons demonstrate the types of fiber that the future holds in store for cotton manufacturers. At the present time the high strength of these triple hybrid cottons, their low nepping characteristics, improved luster and greater length uniformity are, unfortunately, accompanied by low plant yields. Improvement in agronomic properties is being sought by breeders and when yield rates become more attractice to growers some striking gains in fiber quality may be expected.

TABLE 1—SOME PHYSICAL PROPERTIES OF COTTON FIBERS.

Length
Length Uniformity
Fineness
Strength
Maturity
Grade

Extensibility
Compressibility
Elasticity
Resilience
Modulus
Flexibility
Toughness
Stiffness

Torsional Rigidity
Crimp
Kinkiness
Geometric Shape
Specific Surface Area
Convolutions
Fine Surface Structure
Crystallinity
Absorbency
Dyeability
Color
Luster
Electrostatic Properties
Nepping Potential

Table 1 lists a number of physical properties which have been studied, at least to some extent, in cotton. The six characteristics which have been given most attention and identified with yarn quality are shown at the beginning of the table. Others, perhaps equally as important but not so thoroughly investigated, are included in the remaining items. Many of these characteristics are interrelated and a few terms describe combinations of other basic properties.

While illustrating the complex nature of the cotton fiber, this list also points out the vast unexplored area of fundamental cotton fiber research. Knowledge of how each characteristic contributes to such fabric qualities as drape, hand, strength, luster, etc., should pave the way for specialized cottons, bred for particular end uses. Basic fiber studies now being conducted by such organizations as Southern Regional Research Laboratory, Textile Research Institute and the Institute of Textile Technology will provide valuable guides to cotton breeders and technologists.

The processes of selection, evaluation and combination are continually involved in the development of new cotton varieties. Accordingly, the more precise a breeder's measurements and the more sound his combination, the more rapid and successful will be his results. Fiber testing instruments have helped make evaluation more subjective. Further work on methods of measuring will speed up the breeding and selection process.

A number of new fiber testing devices promise to help researchers and mill buyers in cotton selection. One new instrument measures fiber fineness so rapidly that more time is required to record test results than to perform the actual test. In addition, this device gives a measure of the resistance of fibers to compression. Since compressibility varies with different cottons; since pedal eveners measure and control sheets of stock under compression; and since bulk properties are desirable in certain textile uses, compressibility measurements may be significant in future research. A tester recently developed by the U.S.D.A. measures luster in both cotton fibers and yarns, a device with interesting implications for combed yarn mills.

Accurate testing on still another machine shows the way that cotton fibers react under actual processing conditions and gives an index of their nep forming potential. Fiber elongation has come in for recent consideration with the advent of testers which measure this property. Not only is there indication that elongation may be a major contributor to the wear life of fabrics, but, as a function of crystallinity, elongation may indicate the receptivity of cottons to resin finishes and dyestuffs and show a measure of absorbency. These are American machines. Perhaps it would be appropriate to mention a few of the more recent European fiber testers.

Both the Uster Fiber Length Tester and the Shirley Photoelectric Stapler give accurate and relatively rapid measurements of fiber length. From behind the Iron Curtain comes word of a series of cotton test instruments displayed at the Spring Fair in Leipzig. These devices included an automatic staple measurer; a machine which records "ripeness-grade," fiber fineness and strength, simultaneously; a pneumatic impurity tester for ginned lint; a pneumatic impurity tester for seed cotton; and a moisture instrument. All were developed by the Hungarian Research Institute.

At the University of Leeds, England, an electronic nep counter has been developed for a test in which it is difficult to get agreement between operators. This device uses a scanning beam for examining a specimen of web and identifies and records the number of tangled fiber masses. While this counter is still in the experimental stage, its developers have employed a new concept—one which might be used for other types of inspection or control in mill processing.

A final European tester promises a number of advantages for consideration by American breeders and mills. This device, or series of devices, is the Shirley Micro spinning unit, shown in Fig. 1.

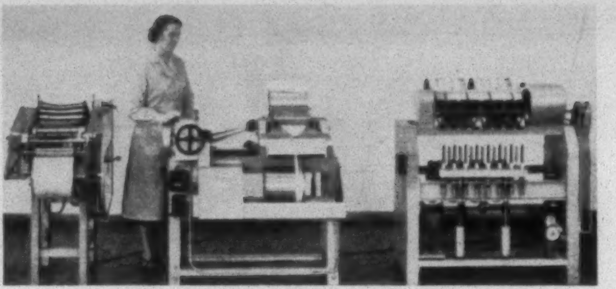

Fig. 1—Shirley Micro spinning unit

Small-scale spinning tests are not at all a new concept; however, yarns from the Shirley unit are said to correlate unusually well with mill-scale production. More than 7,000 samples have been processed on this tester, which will produce a yarn from as little as 1½ ounces of cotton. The small card, shown at the left, produces a web that is wound on a drum, rather than formed into a sliver. This circular batt of card web is split across its width and run on the draw frame, shown in the center. Here, a sliver is spirally wound on another drum. The sliver is cut, producing several ends and is passed through the draw frame a second and a third time. After the third drawing process, sections of sliver weighing approximately 30 grains are drafted on the small spinning frame. At this process a double-apron system will provide drafts as high as 500, spinning counts up to 140s.

Since the complex fiber properties previously mentioned combine to produce the ultimate yarn, a micro-spinning test appears to be quite a useful tool for guiding the judgment of breeders and mills. Its rapid results—a sample may be processed in less than one hour—offer a number of intriguing possibilities for consideration. These opportunities include: testing actual samples from individual preblended mill lots prior to opening; spinning yarns from type samples; miniature tests on additive treatments to raw stock; and color matching yarns from raw stock dyed cotton.

Future instrument developments may be expected to furnish even more rapid, accurate testers for fiber selection. As understanding of test results and studies on correlation of fiber characteristics with yarn and fabric properties are more firmly established, it seems likely that the present trend toward purchasing cotton of guaranteed properties will continue, and that mills will have a better understanding of how fiber selection may be used to their advantage in better manufacturing.

In the area of cotton handling prior to its arrival at the mill, a project should be mentioned in which the Cotton Council is particularly concerned and which can be of great significance to spinners. Ideally, the "Mill of the Future" should purchase the "Cotton Bale of the Future." Since 1952, members of the council's production and marketing division have been working to develop a satisfactory new covering for the cotton bale which will give maximum protection at reasonable cost. Three limitations were placed on this project: that the bale be completely covered; that the covering material be satisfactory for use on existing machinery; and that the new bale be accessible for sampling.

Fig. 2 shows several of the more than 6,000 bales which were wrapped last year in various plastic films, papers, burlap laminates and non-woven fabrics. Reports describing the condition of these test bales on arrival at warehouses and mills are still being received.

As can be appreciated, the complexity of working out a successful covering is tremendous, involving such factors as satisfactory sampling; covers impervious to moisture which will limit adjustment to normal regain; conflict with present gross weight shipment practices; and successful use in presses, to name a few. However, the problems of exterior contamination, emphasized by recent reports of increases in tar spots and colored fibers, plus the wasteful necessity of exterior bale cleaning, point up the need for a satisfactory bale. This is a goal which the council recognizes and toward which efforts will be continued.

Opening and Picking

A walk through almost any opening and picker room will demonstrate to a mill man the fertile field which lies ahead for research on cotton cleaning and lap formation. Many mills with the latest in automatic winders, refrigerated air conditioning, and new long-draft spinning are still ordering picker repair parts from catalogs printed in the early 1900s.

The chokes, rule-of-thumb control of air currents, squealing belts and clanking gears in many an opening and picker room today attest the need for re-design—if only for purposes of maintenance.

Some opening rooms, like topsy, have "just growed," with a new machine added here and two taken out there. Perhaps these arrangements have worked for years because the leveling effect of multiple doublings, cleanliness of hand-picked cottons, slow carding and small packages have not imposed more severe requirements on the early mill processes.

With present reductions in the number of doublings, the non-uniformity in a picker lap produces a measurable variation in yarns. Cotton containing more leaf, stalks and other bits of trash incidental to mechanical harvesting must be well opened and efficiently cleaned. An 18 x 42-inch card can should be preceded by a lap heavier than most picker operators can toss around.

Mills need, and perhaps can expect in the reasonably near future, some radical changes in opening and picking.

One system, designed as a unit from hopper feeder to picker calender, is being developed at Southern Regional Research Laboratory. Ralph Rusca, who spearheads this project, has described their preliminary layout, which is shown in Fig. 3.

Fig. 2—Assorted experimentally wrapped bales at the gin

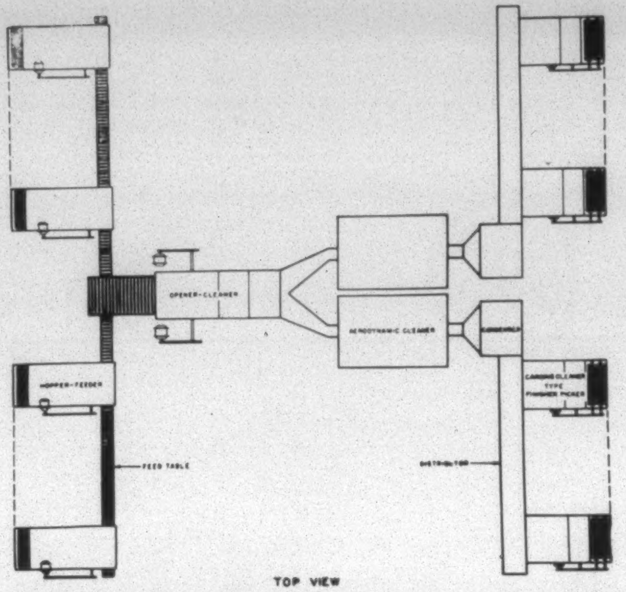

Fig. 3—S.R.R.L. integrated system for cleaning cotton at textile mills

Cotton from the opened mixes will be fed to conventional enclosed hopper feeders. These blending feeders discharge onto a feed table, which, in turn, feeds a single S.R.R.L. opener-cleaner. The rotating toothed cylinders of the present S.R.R.L.-type opener will restore the cotton to an open, fluffy condition and a cleaning section on the same machine will remove the first trash extracted from the fiber. Perhaps 30 to 40 per cent of the trash contained in the cotton will be removed here, and at 3,000 pounds per hour production.

At the exit of the opener-cleaner the cotton will be split into two lines for processing through aerodynamic cleaners, designed specifically to accommodate the fiber tuft size and density delivered by the preceding machine. The desired cleaning efficiency of this machine will be 20 to 30 per cent, at a production rate of 1,500 pounds per hour.

From each aerodynamic cleaner, a condenser and distributor will divide the production between carding cleaners fitted with lap-forming delivery sections. These last machines, with lickerin-type cylinders and unique wire-wound feeds rolls, should remove more than half the remaining trash and produce at about 400 pounds per hour. Thus, while definite results and production model machines are some years away, the prospect of a simple, high production, carefully designed opening and picker line made up of complementary components is in prospect for tomorrow's mills.

Additional original and productive thinking is going into the design of cotton opening and picker units. The "lint recovery principle" may hold promise for one of our future machines. This idea simply recognizes the fact that some sections of a machine might be designed to accomplish the maximum in trash removal, even at the expense of taking out some spinnable fiber. Waste would be continuously reworked in the same machine to separate the originally wasted fiber from trash.

Since air flotation offers a simple, expedient way to separate materials of various densities, and since cotton is transported to the screens by air, more careful study is being given to the source, effects and control of these elusive air currents. Further use for controlled air is shown in Fig. 4. Between the Rando-Feeder and Rando-Webber the mass of

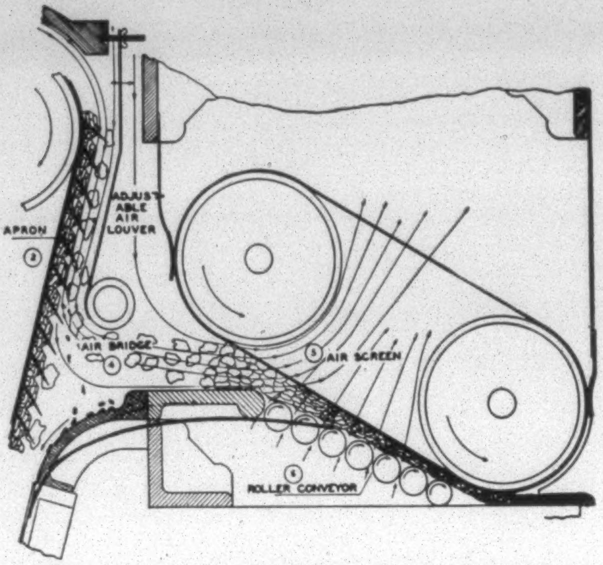

Fig. 4—"Air bridge" principle in the Curlator Rando-Feeder

air carrying fiber tufts into the machine acts as its own evener device, concentrating tufts in thin spots and slowing down the feed to thicker areas. The density of tufts at every spot across the "air bridge" governs the flow of air and the concentration of other fibers in that area; a self-acting evener with immediate response. This principle has produced sheets of exceptional uniformity in the manufacture of non-woven webs.

It must be recognized that satisfactory use of air is grounded on the thorough mechanical opening of fibers. Therefore research on methods of feeding beaters which will prevent plucking and loosen tufts without damage is most important. Further efforts are being made to design cylinders and beaters which will progressively sub-divide the small masses of fibers efficiently.

Continuing developments in the picker point to the need for a simple, positive-acting evener which will continuously and precisely control lap weight, while avoiding problems of over-correction and excessive play. In another area, experiments are being carried out on pneumatic and hydraulic calender section pressure systems.

Automatic doffers are a reality on European pickers and at least one model has been built in this country. Time, large packages and lap conveying systems will probably dictate the advisability of more widespread development here; however, the quality consideration of continuous picker operation with no undesirable start and stop points on lap charts should not be overlooked.

Carding

Progress in carding, the most important single quality element in a cotton mill's operation, seems to be divided into about three periods. Perhaps this can best be explained by the illustration in Fig. 5. This diagram, without the numbered arrows, pictures a machine that saw few changes between 1885, when George Willman developed a practical revolving flat design, and 1950.

The basic design is still unchanged, but the arrows indicate a number of modifications that began to be applied in the late 40s and early 50s with promising results. At (1), heavier laps, both in weight-per-yard and in total yardage were more widely used. Changes in mote knife settings, in some instances replacement of mote knives with toothed rolls, were instituted at (2). The "435-r.p.m.-barrier" in lickerin speed was broken as a result of nep reduction work (3). Changes in back plate settings and new continuous strippers (some of which traverse the width of the back plate) were tried at (4).

The flats, shown at (5), were slowed down to speeds as low as one-third of an inch per minute. A few people even began to run their flats backward, stating that a flat was almost completely loaded by the time it reached the fifth position after entering the working area. Item (6) is the area of direct motor drives, doing away with overhead belting, huge motors and countershafts, and reducing the mill's peak power load. A few brave souls in this country put on metallic clothing (7). They not only found that floors stood up well under the added weight, but that there were many instances where the new clothing produced superior webs—all without grinding or stripping.

In Europe, success with metallic clothing has led to test installations of metallic wire on flats. Many who did strip, found improved vaccum methods (9) to be time and labor savers. Changes in settings helped provide a higher doffer speed and increased production, as illustrated at (8). Since higher production demanded faster doffer combs, the old, chattering comb boxes were replaced by the anti-friction bearing variety or detaching rolls were substituted for the comb (10). At (11) someone put on compression springs and found that they did a good job—on his calender rolls, at least. Like the horsepower race in automobiles, the can size race started, and we now see a diversity of larger sizes from 14 x 36 inches to 18 x 42 inches (12).

The fact that these changes are modifications and accessories rather than radical re-design is certainly no indictment of machine builders. Indeed, it is difficult to visualize another method of performing the card's function without talking in the vaguest generalities about "electrostatics" and "air flotation."

Like the development of the card itself, many patents in this field have been ideas of "something that just might work" rather than engineered solutions based on accurate knowledge of carding principles.

The card would not have remained a mystery process for so long if its parts were readily accessible for study. Unfortunately, observation is limited, as anyone who has used a card gauge recently will know. However, studies are now under way in a number of laboratories which may solve these unanswered questions: Exactly how are fibers transferred from lickerin to cylinder and from cylinder to doffer? How much tangling takes place between cylinder and doffer? Does the card damage some fibers so they will nep at the next process? Is the doffer and its comb really the best method of transferring fibers from cylinder to sliver can? And many more.

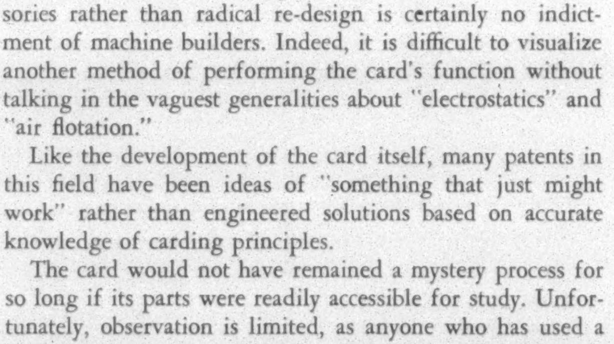

Fig. 5—Diagram of a card, showing areas of recent change

While the future probably holds such promises as higher production rates; lower nepping; more parallel sliver; better fractionation of lengths and less spinnable fiber in waste; changes in design dimension (perhaps smaller diameter cylinders and fewer flats); and decreased maintenance—logic and present knowledge do not predict a radically new card for tomorrow's mills.

Combing

Several recent studies have contributed important basic information on the combing process. This knowledge has been worked into the design of new comber units which show considerable promise.

Ultra-high-speed motion pictures have taken the guesswork out of a comber's internal functioning. A major machinery builder has based his new design on these studies which give a particularly good insight into the detaching cycle.

A European builder takes advantage of Professor Morton's discovery that cotton fibers leave the cards with hooks on their trailing edges. This system uses three drawings and a lapper to prepare stock for combing. Thus, the hooks are presented at the leading edges of the fibers and better combing action is claimed. The three drawing processes also offer a high degree of parallelization in comber laps, another desirable condition for efficient processing.

The third, large, mill-sponsored study, this one on increased combing efficiency, is now under way at N. C. State's Textile Research Department. Results of these investigations will be the exclusive possession of sponsoring mills for one year, after which the findings will be made available to the industry.

Some Promising Trends

The idea of drafting directly from sliver to yarn has been kicked around for more than 20 years, and merits of the process can be debated for hours. The fact remains, however, that there are today well over a million spindles spinning direct from sliver in other countries. Mills report higher strengths in yarn spun with this method than in yarns obtained from conventional spinning. Good yarns in a range of counts from 4s to 80s—all spun from 55-grain sliver—have been exhibited by machine builders. The optimum processing organization is certainly an individual mill decision, but few mill men would want to overlook the merits of any system in their future planning.

A patent held by Southern Research Institute goes even further toward shortened processing. In this design, well-opened individual fibers are aligned by electrostatics and pulled through a funnel-shaped orifice where they are twisted into yarn. A production machine is somewhere in the future, but the impact of this spinning concept on mills could be extremely important.

The improvement in drafting performance and yarn strength gained by treatment of cotton with colloidal silica has been well established. Successful application of silica to stock in process has been the principal handicap. It seems likely that the chemical companies may have this problem worked out soon, so that colloidal silica may be practically used as a processing aid.

A new worsted processing machine successfully measures and continuously corrects through its drafting system variations of a long-term nature in stock being fed. Time and expense will determine whether "automation" processes such as this find their way into the cotton spinning mills.

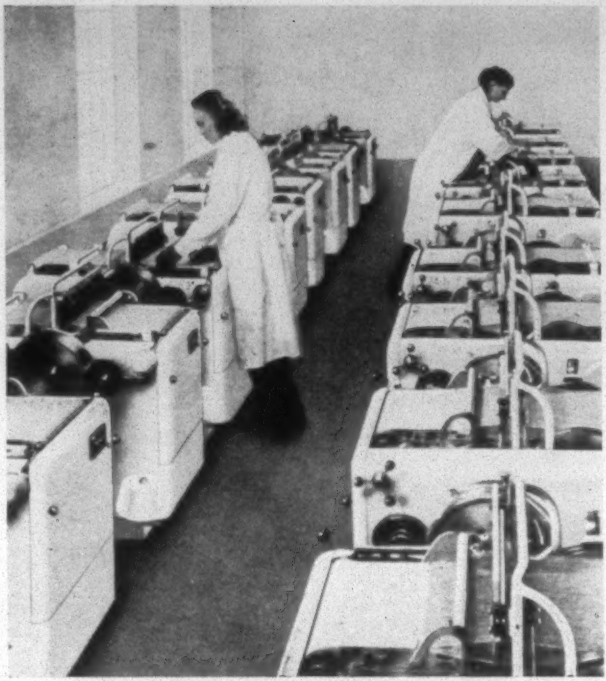

Fig. 6—Czechoslovakian P45 shuttleless loom

Finally, there are two illustrations which demonstrate something of the originality and imagination that are going into machine design.

Fig. 6 shows a Czechoslovakian weave room which, upon first glance, may look somewhat more like a launderette. The shuttleless looms pictured are weaving on relatively narrow, 18-inch fabric at 600 picks per minute. Each pick is measured on a drum, inserted by a jet of air, and clipped.

Fig. 7 illustrates a wider, 41-inch loom developed by the same Czech company. Picks in this shuttleless loom are carried across by a tiny jet of water! Production rate of the loom is claimed to be in the neighborhood of 300 to 400 picks per minute. Note the angle (36°) of the weaving plane and the fact that the loom beam is directly over the cloth roll, with both at the back where they may be serviced from one alley.

In reviewing this material there is some indication that

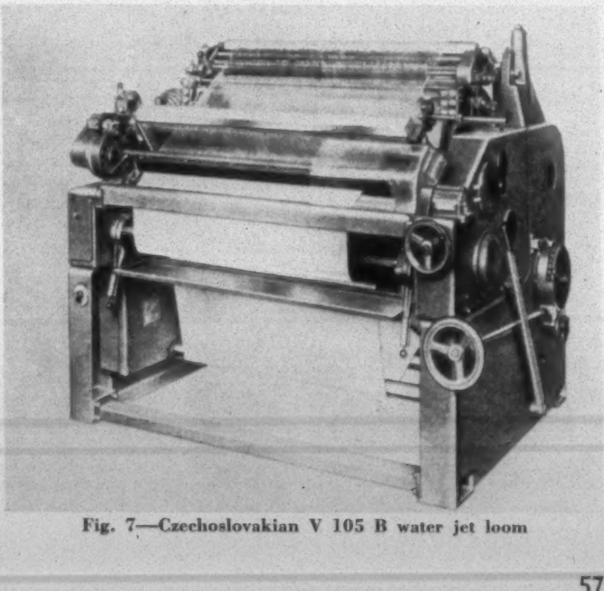

Fig. 7—Czechoslovakian V 105 B water jet loom

the writer may have an unduly high regard for European machinery. If this impression has been left, it is entirely false! American textile equipment, like American textiles—and American cotton—will always lead the world. The slight imbalance is an effort to draw upon developments with which S.T.A. members might not be so familiar as American equipment.

In conclusion, there is a final concept—one that is new, and one that in many respects outweighs everything else that the future may hold for cotton mills. That concept is a receptive, open-minded attitude on the part of operating mill men toward new ideas. Research that never gets out of the laboratory is pitiful and fruitless. Today, more than ever before in history, mill men are taking research findings, adapting these findings to their own operations, selling employees on the new methods, and *making the changes work!*

In this climate, further cotton research can flourish.

In a Merging Mood? Here's How & Why

By W. T. GRIMM, President, W. T. Grimm & Co., Chicago

W. T. Grimm is president of W. T. Grimm & Co., a financial consultant firm specializing in the negotiation and arrangement of mergers. Headquartered in Chicago, the company also maintains offices in Los Angeles and representatives in leading cities. Mr. Grimm was formerly associated with Kidder, Peabody & Co., and prior to that, with the First Boston Corp. He is a graduate of Northwestern University, and a member of the Investment Bankers Association and the National Association of Security Dealers.

IN the swirling waters of corporate finance, it is sometimes difficult to make out which way the current is running. Mergers are perhaps the most volatile news today. We have had perhaps about 3,500 mergers since 1950. But while we have had other merger waves in the past, it appears that the wave of mergers which started in 1950 is different from the wave in the late 1920s.

According to a report of the Federal Trade Commission in 1955, our present mergers do not appear to rise out of any speculative urge, or any desire to create monopolies. The economists find that most mergers currently are due to the normal desire of larger companies to grow and expand markets. By this the economists mean adding capacity, adding products to the line, and diversifying risks. This seems to be the desire on most *buyers'* sides.

What about the motives on the *selling* companies' part? These, according to the study, arise in a small way out of the tax structure—e.g., high estate taxes on family enterprises, desire for capital gains, and tax-free stock transfers. Quite often, however, the sellers' motives arise from the inability of medium-sized companies to retain earnings and command financial resources for expansion and modernization. The pressure for more and more working capital is hard to take as a continuous force.

It is for that reason that almost all the sellers—in the merger situations—are medium-sized or smaller companies. They are the ones who feel the capital shortage pressure most. This is particularly true today with tight bank credit.

What companies and what industries are most represented in the latest merger wave? According to the Federal Trade Commission report on mergers, here are the main fields in which mergers took place in 1948-54 period:

Industry Group	*Number Of Acquiring Concerns*	*Number Of Concerns Acquired*
Machinery (nonelectrical)	166	249
Food and kindred products	100	243
Chemicals	73	168
Fabricated metals	91	161
Transportation equipment	66	125
Textiles and apparel	74	117
Electrical machinery	70	111
Mining	48	81
Primary metals	53	78
Stone, clay and glass products	39	70

A large company with resources might have any of several reasons for seeking a merger. Generally speaking, these are some of the principal reasons which determine the merger pattern: A company might want to lengthen its product lines through merger (e.g., Botany Mills and Rolley Inc.). A paper manufacturer might reach backward and acquire a lumber mill, or forward and acquire a paper products company, or perhaps both. This would put the company in a position to save money all along the line. (This explains Ekco Products Co. buying Adams Plastics Co., which produces pressed wood for utensil handles.)

A company might want to join forces with another that deals in the same product (e.g., American President Lines and American Mail Line Ltd.). Another example of a merger is to improve competitive position, make savings in purchase of materials, and get the advantages of a larger sales network (e.g., Nash-Kelvinator and Hudson Motor).

Diversification may be the goal of a merger. A railroad equipment manufacturer—which is prone to heavy fluctuation—might acquire an electronics and research company, or a maker of industrial compressors, engines, and construction and mining equipment, or a manufacturer of earth-moving equipment. That's exactly what Westinghouse Air Brake Co. did. The same theory lies under W. R. Grace & Co.'s acquisition of chemical companies.

Another reason behind a merger may be a desire for high-grade management. Sometimes companies merge to get the service of the selling company's president and other key personnel. Still another reason is to get a listing on the New York Stock Exchange (e.g., Texas Instruments Inc. and Intercontinental Rubber Co.).

The people who often know what larger companies are seeking in the way of mergers, are financial consulting firms.

But how does a *smaller* company indicate it would like to be merged with a larger? The happenstance occurrences—accidental contacts—are too haphazard. Someone might find a uranium mine while hunting squirrels, but geiger counters and geologists' surveys are more fruitful.

Generally, smaller companies wishing to merge with (or be bought out by) a larger company are reluctant to come out harshly and announce their property is for sale. Premature disclosure might be harmful. Yet it is the smaller company which usually makes the approach. As the Federal Reserve Bank of Chicago points out in a recent (July, 1955) study on mergers:

> A high proportion of the firms acquired recently have been relatively small, closely-owned enterprises. *In many cases, perhaps a majority, these firms have taken the initiative in merger transactions.*

Companies with a definite desire to make a merger usually get best results with a systematic approach. Normally, they work through financial consultants. Many of these consultant firms have a good deal of experience in finding congenial partners for merger-minded clients, and even arranging for financing, should that be required. In addition, financial firms which specialize in arranging mergers, have developed negotiation procedures which facilitate the whole business. This has proved to be invaluable in many situations.

In general, the financial consultant firm is familiar with two broad groups of purchasers. The first group of potential purchasers consists of corporations having very specific ideas as to the products, locations and methods of distribution which prospective acquisitions must have. An advantageous integration of distribution systems is usually the minimum requirement of such a purchaser, and normally, economies in purchasing and production or, perhaps, a strengthening of general management, will also be expected to result from the acquisition.

The second group of buyers has no specific criteria for prospective acquisitions other than the expected financial return on their investment. Such buyers will consider almost any segment of any industry. While they may often be willing to pay higher prices for companies than the first group of buyers, ordinarily they will wish to acquire only companies with proven management and a favorable earnings record. Financial policy controls may be the only restrictions placed on the operations of the acquired company, which otherwise may continue under the same management with few discernible changes attributable to the new ownership.

While finding the best potential purchasers is difficult for the seller, the problem of approaching these prospects is usually even more perplexing. There is the danger that customers or suppliers may be disturbed if they hear rumors of such a move, and such news could be even more alarming to the seller's own personnel. Therefore, it is important that the early negotiations be held in complete confidence. Quite apart from the danger of premature disclosure is the fact that a seller who directly approaches a prospect has thereby immediately placed himself at a strategic disadvantage. Once negotiations have commenced, there arise the additional problems of properly evaluating proposals and bargaining for the best possible terms.

Most of these problems are minimized by the use of a specialist in this field of sales and mergers. After consulting with the seller in detail as to his basic objectives, a specialist in the merger field can efficiently locate and screen the most logical purchasers from among the two broad groups previously discussed. Further, an extensive investigation of prospects can be made without disclosing the seller's identity until there appears to be a clear mutuality of interest. Even when the prospective purchaser is a personal acquaintance of the seller, it is generally to his advantage to have the approach tactfully handled by an experienced intermediary.

For example, a recent case from our files might indicate the twists and turns in a typical merger negotiation. Details have been changed to prevent identification of the principals.

The client, Mr. A, was chief executive and major stockholder of a successful textile manufacturing firm. Although still several years from retirement age, Mr. A had no children who could take over the business. He was concerned about the liquidity of his estate and the continuity of the thriving business he had so painstakingly developed. Virtually his entire net worth was represented by his equity in the company, and in the event of his sudden death, estate and inheritance taxes might engulf the estate as well as undermine the firm. Mr. A also realized that the most favorable time to sell his company was while the economy was prospering and his firm experiencing good earnings. He decided that he would try to sell his controlling stock interest in some manner which would give him about $2,000,000 cash after taxes.

Typically enough, Mr. A's price was high. But while the proposed asking price was approximately 40 per cent above the book value of the stock, the past earnings record had represented a rate of return on investment well above the industry average. Further, the fact that Mr. A was willing to remain with the business for several years, widened the range of potential purchasers.

After preparing a report on the company which contained the basic data needed to interest a buyer (but carefully avoided giving any clues as to the seller's identity), we started an orderly approach to a selected list of prospective purchasers. Direct competitors were excluded from this list, because of the danger of repercussions in case a transaction was not consummated.

Four good prospects were located in this manner, including one company with its stock listed on a major stock exchange. In addition, Mr. A referred a fifth prospect to us who had approached him directly. This prospect soon revealed it would purchase the assets of the company giving Mr. A a net liquidating price of $1,950,000. However, it would only pay $250,000 down and the remainder of the price would be given in notes payable over ten years. On our advice, Mr. A turned the offer down because the prospect refused to place its credit (which was rated only fair in the first instance) behind the notes and, in effect, the company would have to pay for itself out of its own earnings—an operation called a "boot-strap."

The first of our four prospects backed out of the picture when it found Mr. A would not consider an offer in cash for the company's stock equivalent to the company's book net worth. The second prospect became discouraged when it made the same offer plus an additional incentive of a ten year management contract for Mr. A at $35,000 a year plus a generous profit sharing plan.

The third prospect offered Mr. A an exchange of its listed stock for his on the basis of market value for book value. Since this prospect's stock had a market value very close to its book, this appeared to be a fair offer. This prospect also had hidden asset values and an exchange on this basis appeared to be what Mr. A was asking for. Further, it would be a tax-free exchange. Mr. A almost accepted the proposal on two separate occasions. However, the stock market at that time went into a period of profit-taking, and the buyer's stock declined temporarily about eight per cent in value. Mr. A feared that the stock did not have sufficient quality to meet his desire for safety of principal and he again withdrew from negotiations.

The fourth prospect was a corporation which Mr. A admired. We realized that only if this prospect could visualize the future growth of the company would it reach Mr. A's price. We offered a solution. By demonstrating that the land and buildings of Mr. A's company were carried at values considerably below current market prices which accounted in part for his high asking price, we persuaded the prospect to buy all the other assets for cash and lease the plant from Mr. A's corporation for a term of years. Mr. A also agreed to remain in charge for a minimum of five years. The final result satisfied the requirements of both parties and the sale was consummated. The purchaser bought the company's inventory and machinery at essentially their book values while Mr. A received the increment over book in the form of retaining the "undervalued" land and buildings. Both parties were very pleased with the outcome.

All of the above negotiations involved a period of about 14 months. Even simple transactions such as this are seldom quickly consummated. The intermediary's fee paid by the seller for such service, was contingent on the successful completion of the merger, and represented only a small part of the higher price the seller finally obtained for the business.

Unfortunately, in all this complexity of mergers, there are no sure and simple guideposts, just as there are no obvious and certain ways of running a business successfully. However, experience indicates that successful mergers are often the result of specialists' efforts.

Opening, Picking, Carding & Spinning

Shock Loading and Its Effect on Yarns

—A National Bureau of Standards Report—

This discussion of shock loading, or high-speed impact stress, is definitely "long-hair." But it is a subject which is getting more and more attention.

THE ability of textile yarns to withstand high-speed impact stresses, or shock loading, is becoming increasingly important to modern industry and to national defense. Extremely high rates of strain are experienced by airplane tire cords during landing, by seat belts and safety lines when accidents occur, and by the fabric, shroud lines and webbing during the opening of a parachute. In high-speed industrial sewing the thread is subjected to impact velocities ranging from one to ten meters per second as often as 5,000 times per minute. This results in high-frequency cyclic accelerations of the thread, which may equal several million centimeters per second. Similar conditions may be attained in high-speed processing of fibers, such as carding and combing or the weaving and knitting of yarns into fabrics.

To provide design data for these various applications, the National Bureau of Standards has been making an extensive study of the behavior of textile yarns under very high-speed impact. The study seeks to determine the effects of high rates of strain on textile materials and to relate these results to the molecular structure of the fibers and the geometry of the yarns and fabrics. In this way, it is hoped, information leading to the development of fibers having improved impact properties will be obtained. The program, directed by Dr. H. F. Schiefer of the N.B.S. staff, has been partially supported by the U. S. Army Quartermaster Research and Development Command.

Important criteria in judging the ability of textile yarns to withstand shock loading include the magnitude and propagation velocity of the stresses and strains developed in the material, the energy absorbed and recoverable, and the energy to rupture. Two testing machines have been developed for studying these characteristics at rates of deformation from about 1,000 to 10,000 per cent per second. One of these employs a pair of rapidly moving hammers to subject yarn specimens to longitudinal impact at speeds up to 80 m/sec. The other incorporates a spring-driven impeller and is used to study the effect of transverse impact with a projectile flying at speeds up to 65 m/sec.

In the longitudinal tests, the ends of a two-foot yarn specimen are attached to head and tail masses, and the specimen is supported fully extended between these masses in a metal tube which is mounted on the impact machine. High-speed impact occurs when a pair of hammers attached to the rim of a rapidly rotating wheel strike the head mass.

The hammers are attached on each side of the rotating wheel so that they pass on either side of the head mass while the wheel is being brought up to speed. When impact is desired, the tube holding the head mass is rapidly rotated through 90° by means of a spring-loaded cam actuated by a triggering circuit. This causes projections on the head mass to lie directly in the path of the hammers. Thus, when the hammers strike the head mass, the tensile stress on the specimen is applied very rapidly.

After impact the head mass, specimen and tail mass fly

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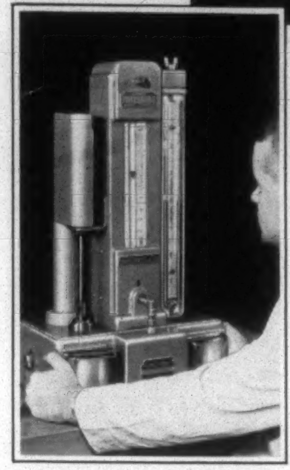

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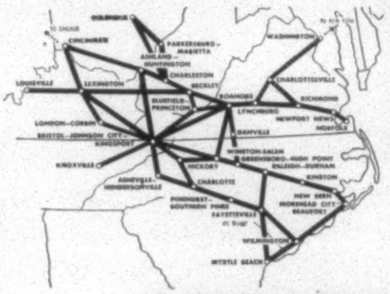

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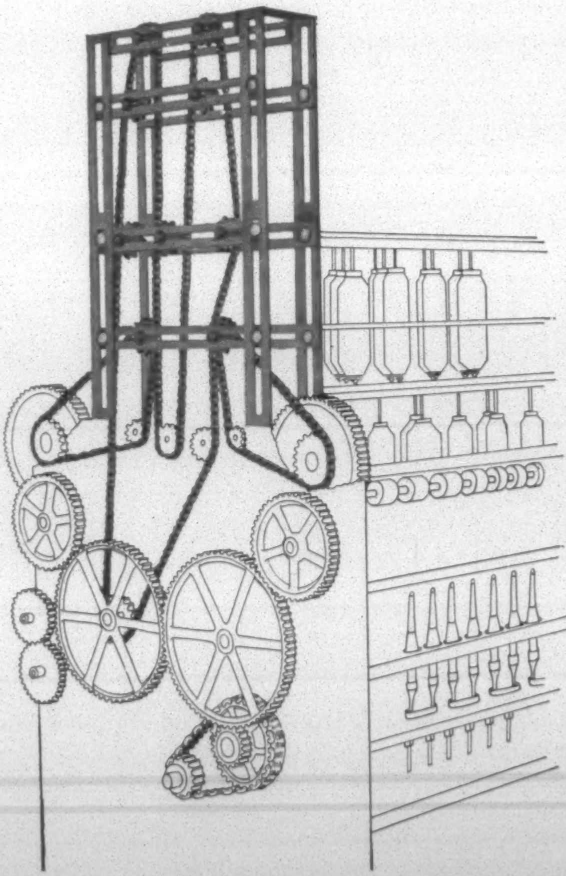

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off in the direction of impact and are collected in a catch box for subsequent examination. If the inertial force exerted by the tail mass is sufficiently large, the specimen will rupture. The object of the test is to determine the lowest impact velocity for a given specimen and given tail mass at which the specimen will be ruptured. Data from tests made on specimens of various lengths with various tail masses attached are used to compute the *rupture energy density* for the specimen material.

Rupture energy density is a quantity that is characteristic of the material tested and is useful in engineering design. It gives the amount of energy required to break unit mass of textile yarn. This quantity can be measured accurately at impact speeds up to 50 m/sec. However, at higher speeds the effect of strain wave propagation along the impacted specimen limits the accuracy of the determination.

If the rupture energy density is assumed to remain unchanged at impact speeds near 200 m/sec, an associated quantity, the *limiting breaking velocity* can be calculated. This quantity gives an estimate at the lowest velocity required to cause a break at the head of the specimen immediately upon impact without regard to the specimen length or tail mass used. The limiting breaking velocity of high-tenacity nylon is 240 m/sec.

The actual velocity that will just produce an immediate impact break is called the *critical velocity*. It is usually slightly less than the calculated limiting breaking velocity and depends on the shape of the stress-strain curve for the material. The limiting breaking velocity depends only on the area under the stress-strain curve.

With present equipment it is not possible to measure directly the critical velocities of all textile materials of interest. However, the data on rupture energy density obtained in the longitudinal impact test can be used to compute the limiting breaking velocity as an estimate of the critical velocity. Then, if high-speed stress-strain curves are available, these curves can be used to determine how close the limiting breaking velocity approaches the critical velocity. Data for stress-strain curves have been computed from high-speed motion picture records of the longitudinal impact test. However, more accurate data is now being obtained from the more recently developed test involving transverse impact.

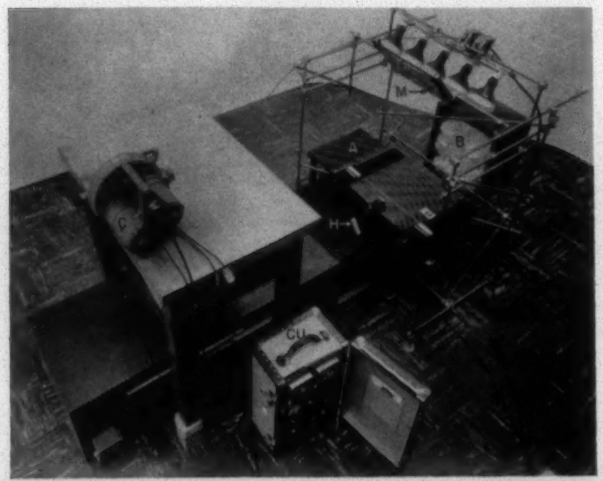


Fig. 1—Experimental set-up devised by the National Bureau of Standards for studying high-speed transverse impact in textile yarns. The yarn specimen is clamped above a grid system on a rigid table (A). The hammer (H) impells a projectile toward the center of the specimen and into a catch box (B). During and after impact a high-speed motion picture camera (C) photographs the specimen and underlying grid system as reflected in the mirror (M). L, flood lamps; CU, control unit for starting camera and putting timing pips on the photographic record.

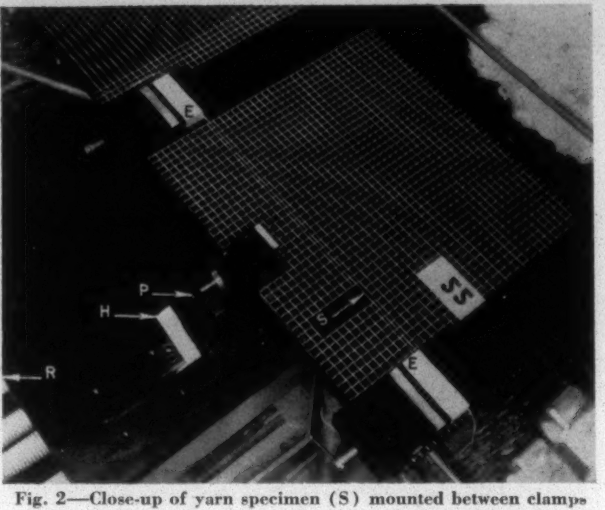


Fig. 2—Close-up of yarn specimen (S) mounted between clamps (E) for transverse impact test. Impact is made by the projectile (P) when struck by revolving hammer (H). The hammer is driven by springs (R).

In the transverse impact test, the yarn specimen is clamped to a rigid massive table on which a co-ordinate grid system is inscribed. A freely flying projectile, impelled by a rapidly revolving spring-driven hammer, makes transverse impact with the yarn specimen at its center.

A plane mirror reflects images of the specimen and grid system so that they can be photographed with a high-speed camera during and after impact. The camera used can make up to 15,000 pictures per second. Measurements on the photographic record provide data from which the stress-strain curve for the yarn specimen over a period of about one millisecond may be calculated.

When the yarn specimen is struck transversely by the projectile, a longitudinal strain wave is propagated along the yarn, outward in each direction from the point of impact. In the region between these two wave fronts the material of the yarn is set into motion toward the point of impact. This inward flowing material forms itself into a tent-shaped wave with the impacting projectile at the vertex. The material forming the "tent" moves in the direction of the projectile with the velocity of the projectile. The base of the tent propagates outward as a transverse wave with a velocity that depends upon the tension in the specimen. This transverse wave travels back and forth along the specimen, undergoing reflection alternately at the clamps and at the projectile. At each reflection the configuration of the specimen changes markedly.

To obtain the stress-strain curve, the specimen length is measured in each picture of the photographic record. The strain, or ratio of change in length to the original length, is thus obtained as a function of time. The position of the transverse wave front is also measured in each picture and the velocity of the transverse wave found as a function of time. A simple mathematical relationship then gives the tensile stress in the specimen for each transverse wave velocity. The stress-strain curve is plotted from this data for stress and strain as a function of time.

A Manual for Testing Procedures

By GUS GUGGENHEIM—Part Two (Stock Weighing)

How much stock should be fed into the opening hoppers in order to get a predetermined amount from the pickers? By using the test outlined here you can get right to the heart of the matter.

IN a past installment of this series we have discussed in some degree the relative importance and usefulness of a test employed in determining the ratio of feeding between the opening line and the pickers. This writing is meant to come closer to grips with the problem. We intend to deal more intimately with the amount of stock fed into the opening hoppers and the amount taken from the pickers.

For illustrative purposes we have drawn off a diagram showing the layout of a hypothetical opening, cleaning and picker line. Following the line through we would like to point out that there is no attempt made here to say or prove that this line will give optimum opening and picking, or will be of the most modern design. This line is more or less typical of the opening and picking to be found in mills around the country.

The test to be run will attempt to study, in close detail, the happenings, the weight changes, the hopper feed and several other details. The operation of the test requires the services of three men. None of the men utilized need be trained technicians, but all should understand the use of a stop watch, the reasons for accurate weighings and the necessity for correctness in reporting results. The three men will be stationed as follows: Tester No. 1 will be stationed at the delivery end of the pickers; Tester No. 2 will be stationed in view of the opening line; and Tester No. 3 will be stationed in front of the opening line so that he may feed the opening line during the length of the test. Tester No. 3 will actually run the opening line for the test's duration.

Duties of the Testers

Tester No. 1, who will be stationed at the delivery end of the pickers, should be the test leader. He will start the test. And after the test has been run for the length of time determined to be adequate for accuracy, Tester No. 1 will signal the end of the test. Tester No. 1 will be responsible for simple but important duties during the course of the test. He will weigh each lap as it is doffed from the picker. In addition, he will record the time the lap was doffed and note the approximate level of the stock in the picker's hopper. Thus, through his weight, time and level recorders, Tester No. 1 will be able to supply a complete picture of the goings-on around the delivery end of the pickers.

Tester No. 2, who will be stationed in view of the opening hoppers, is entrusted with keeping an accurate record of the time the hoppers were fed by the opening line

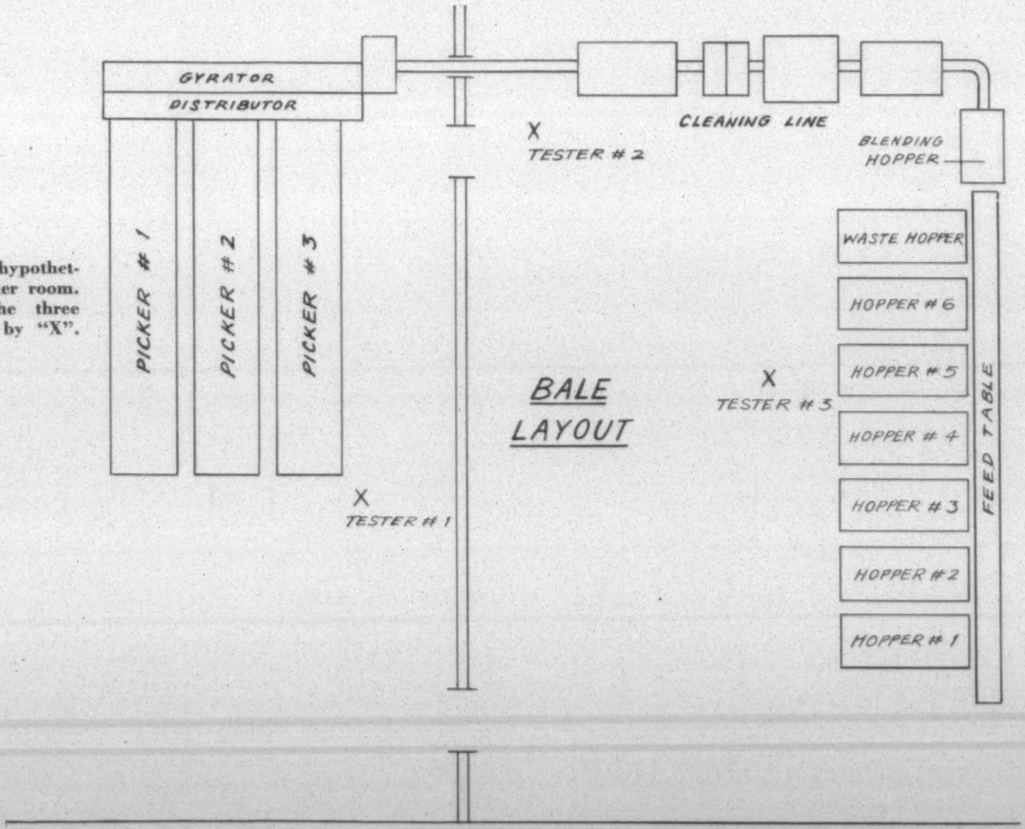


Fig. 1—Layout of a hypothetical opening and picker room. The positions of the three testers are indicated by "X".

operator. Also, Tester No. 2 will record the time the opening hoppers stop and the length of time the hoppers are stopped. He will, in short, determine when the hoppers are fed, when they stop, and how long they are stopped.

Tester No. 3 will operate the opening line. He should select thin layers of cotton from all bales in the bale layout for feeding into the hoppers. He should feed the same weight into each hopper. Tester No. 3 should feed each hopper in the same sequence every time, that is, starting with hopper No. 1 and continuing through hopper No. 6 successively. The hoppers will be fed, in this manner, upon receipt of the signal from Tester No. 1 that the doffing cycle has been completed.

Operation of the Test

Noting the diagram, let us assume that our three pickers are making a lap which weighs 50 pounds not including the weight of the lap pin. This means that for each doff cycle of the three pickers, three times 50 or 150 pounds of the stock will be taken from the pickers. It is logical to deduce, also, that for each 150 pounds taken from the pickers, 150 pounds of stock must be introduced into the opening hoppers. Therefore, dividing 150 pounds by six opening hoppers yields the result that 25 pounds of stock must be fed into each hopper every time the picker doff cycle is completed.

To feed exactly 25 pounds of stock into each hopper for the duration of the test is obviously impractical. Actually, Tester No. 3 should practice peeling thin layers off the several bales of stock behind each opening hopper until the weight of the combined layers approximates or slightly exceeds 25 pounds. When he is able to select the proper weight to be deposited into each hopper, Tester No. 3 will be ready for his part in the test.

With each of the testers familiar with his part of the test the whole operation is ready to start. The length of time found to be best is three hours. This period gives the pickers and opening line ample opportunity to repeat, several times, any particular change of weight or change of feed condition which may crop up during normal operations. Also, the element of luck is considerably re-

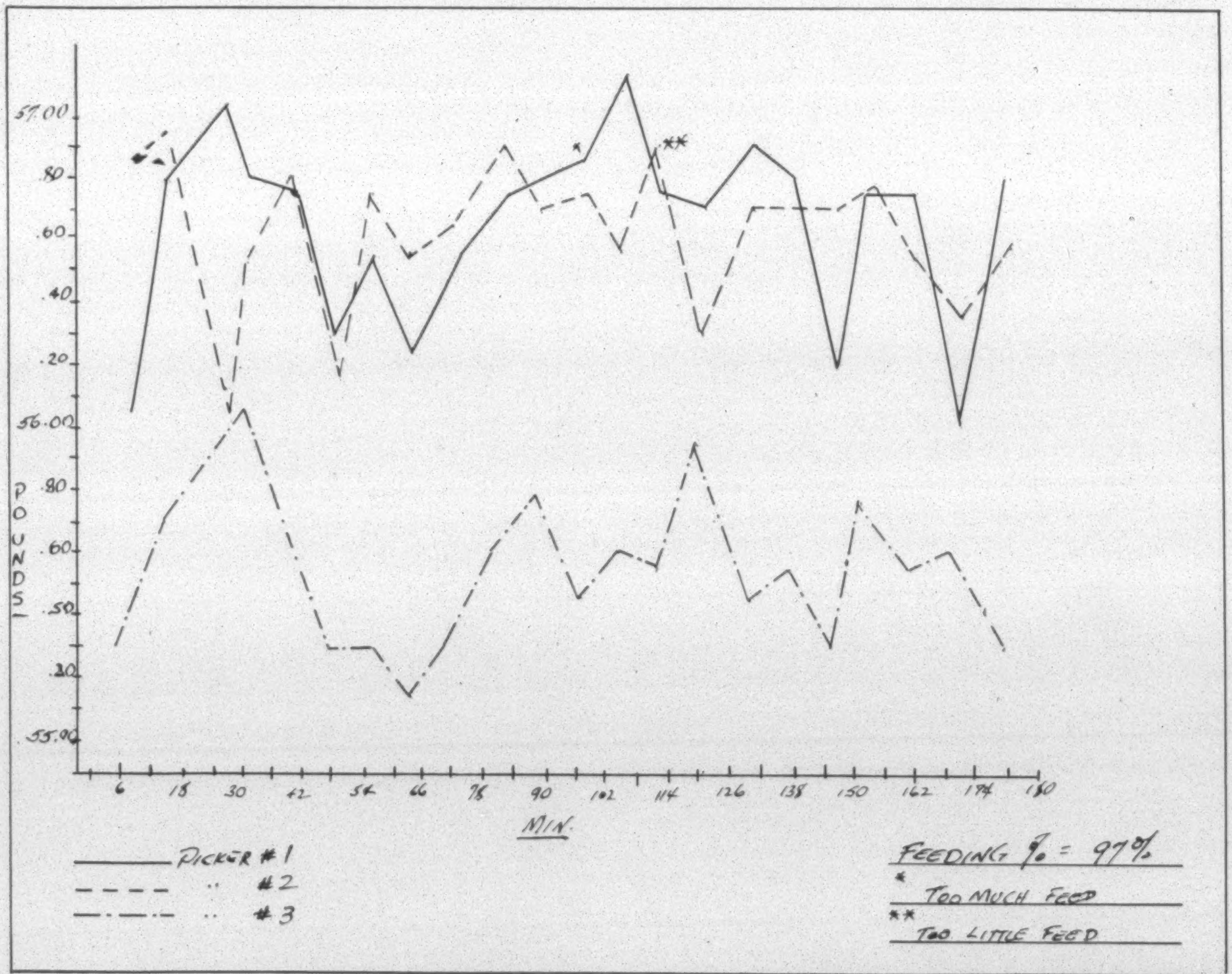


Fig. 2, an example of the graph to be made following the running of a test such as described in the accompanying article. It will be noted that Picker No. 3 is making laps which consistently weigh considerably less than the other two pickers. However, these laps fall within the one-pound weight limits. This consistently lighter weight may be due to an inadequate feeding system in which the pickers which come first in the distributor bleed the stock from the third picker. Asterisks on the chart denote times at which the rate of feed was stepped up and slowed down deliberately. This change in the rate of feed was done to determine the effect on over-all lap weight of all three pickers. The weight of all three laps increased as the hoppers were loaded to full capacity. Likewise, the lap weights decreased (within limits) as hoppers ran empty. In both cases, Picker No. 3, which is the last to be fed in the distributor set-up, felt the effect of the feed change last. Picker No. 3, in this test, is adjusted to make a slightly lighter lap due to the fact that its laps are fed to a group of cards which have a slightly different draft from the majority of other cards in the mill. Thus, by adjusting the weight fed into this group of odd cards, difficulty in holding proper weights on down the line is avoided.

duced. The test should run off smoothly. Any major breakdown on the equipment under study renders the results invalid.

For greatest clarity in interpreting results of the test, a graph should be constructed in such a manner as to contain all the data gathered by the three testers. Along the vertical plane of the graph the lap weights are noted. In the horizontal plane will be found the time (min.) of test. Also noted in the horizontal is the time in which a cycle of feeding each opening hopper was completed. Now, by simply plotting the weight of the lap from each picker (using a different colored pencil or a different type of dotted line for the several pickers) above the appropriate time spot, a complete picture of the operation of the pickers is obtained. The effects of over or underfeeding are readily apparent if the tester operators overfeed or underfeed at a given time during the test. These times are, of course, noted on the graph.

The operation of an opening room on a production basis using the type of feeding described for test conditions is not practical. However, testing of this description may be most valuable in determining the need for additional opening capacity, automatic feeding or controlled conditions of some sort. Opening and picking are certainly important to the entire mill operation and bear the most scrupulous attention possible under existing conditions.

Warp Preparation & Weaving

A Study in Loom Fixing

By FRANK D. HERRING—Part Nine

If you, says the author, erect a loom from the floor up, you can be exposed to just about everything in fixing. Here he discusses specific troubles and their solutions.

A first-class loom fixer on the present high-speed automatic loom is a highly skilled mechanic. The loom justifies its name—automatic—by doing most of the things required of it automatically, and as these required functions are performed at a high rate of speed, accurate adjustments and split second timing of all the parts of the loom are absolutely necessary.

These articles are being written to try and help the loom fixer on the job to become a better loom fixer, and also to help the beginner become a good loom fixer in less time than is ordinarily required. The first fundamental of good loom fixing is to know how to build the entire loom correctly, and without this basic knowledge the route to becoming a good loom fixer is rugged and very costly.

While building the loom, the beginner will become familiar with each and every part comprising the entire loom, and how they are adjusted and set, their functions, and how they are supposed to work in conjunction with other parts. The beginner should be instructed on how to build the entire loom, put the shuttle in it and operate it without warp or filling yarn.

By doing this he will learn the basic principles of loom fixing. But this does not mean that he can learn how to run a section of looms by doing just this, because when filling yarn is put in the shuttle and the warp yarn and the harnesses are put onto the loom the job of making it run and weave cloth becomes much more complicated.

When the loom is rigged up for weaving cloth, the fixer must begin to really learn to fix looms. However, strange as it may seem to some, fixing the loom is not always the most difficult and time-consuming portion of the fixers work, because most loom fixers spend much more time wondering and searching for the cause of the trouble than would ordinarily be required to fix the loom. In the meantime they will move and readjust many parts which have no connection whatever with the basic cause of the trouble, and this will add to their troubles and work by creating more jobs for them. There are ways and means to avoid this type of guesswork loom fixing, wasted effort and unnecessary loom stoppage.

In the event of broken parts such as picker sticks, swords, back box plates, etc., the fixer should always follow through on the routine check to determine the cause before starting the loom after replacement is made. The routine check serves a double purpose—it enables the fixer to locate the cause of the trouble when the evidence is not visible, and very often it is not, and it will prevent a recurrence of the trouble, regardless of what it is.

Filling Fork Prongs Bent

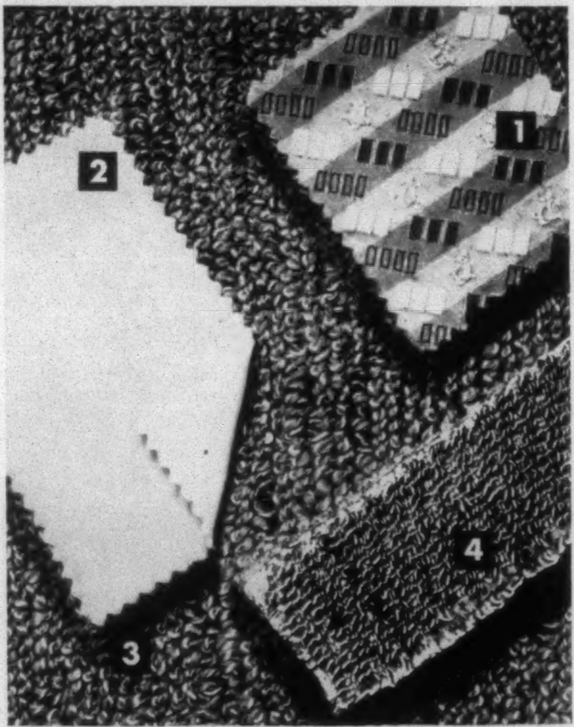
When a loom fixer is called to work on a loom, and finds the filling fork prongs bent (Fig. L, Page 68), he should check the following things to locate the cause of the trouble, and fix the loom.

Check strap on shipper end.
The brake assembly.
Binder spring on shipper end.
The frog, and protector rod assemblies.

Bent filling fork prongs do not occur very often. There are very few loom fixers who know what causes it, and instead of fixing the loom and preventing a recurrence of the trouble, they will replace the entire filling fork assembly, consisting of filling fork prongs, filling fork prong holder and filling fork holder loop. This is a costly assembly, and requires some time to make the replacement properly. After this replacement is made, the loom might run several days before the forks are bent again, but it will happen again unless the cause for the trouble is found and remedied.

When the filling fork prongs are bent, and out of alignment with the filling fork grate, the loom will not stop off when the filling breaks in the shuttle while the loom is running, because that is the only means provided for stopping the loom when the filling yarn breaks and if the loom is not stopped off when the filling yarn breaks it will continue to run, making thin places in the cloth, until the weaver discovers it and stops it off, or the shuttle will be thrown out and the loom will slam off.

The cause for bent filling forks is a splendid example as to the positive value of the loom fixer knowing, and using, a regular routine checking system to locate the trouble with looms when they are out of fix. It is very doubtful if one per cent of today's loom fixers would agree, offhand, that the braking assembly could possibly have any connection whatever with bent filling fork prongs, but that is exactly what causes at least 75 per cent of it. When a loom stops off automatically from any source, the crank arms will be near the bottom center position, provided the braking assembly is properly adjusted and the brake lining is in good condition. The loom is designed to do this for the weaver's convenience, because when the loom stops with crank arms near bottom center the harness that are moving on that pick will be stopped in level, or near level position with each other, and the shuttle will be in one of the shuttle boxes. Thus, the weaver can draw in a broken warp thread, push the shuttle all the way up in the shuttle box and pull the shipper handle on and start the loom without having to waste any time or effort by positioning the lay himself by hand. If the driving mechanism is in good condition, and properly adjusted, the loom should start, without slamming off, when the crank arms are in bottom center position.



BEMBERG CROSS-DYED WITH VISCOSE—An interesting recent development has been the adoption of cross-dyed Bemberg-viscose fabrics. The interesting color effects that have been obtained in rugs, laces, tie fabrics, plushes, velvets and suitings, have proved themselves to be highly commercial, highly practical and highly marketable. The effects are obtained by conventional dyeing procedure and entail no special processing or added cost.

The piece-dyed tie fabric shown in No. 1, illustrates a three-color combination with solid pink Bemberg warp, white viscose tissue filling stripe and black acetate tissue filling. This fabric is finished with a special scrooping formula to produce the hand, as well as the appearance of yarn dyed real silk.

New and unique irridescent dyeings on transparent velvet of North American viscose pile, dyed violet, with silver grey Bemberg backing is demonstrated by No. 2. The dyestuffs employed here exceed all fastness requirements of this exacting trade and are unconditionally recommended for resin finishing.

The red, green and white textured tufted rug shown in No. 3 is made of 2,500-denier Bemberg Dream Slub, plied with spun viscose and spun acetate yarns. Such rugs may be piece dyed in an unlimited range of shades, thus overcoming the need for solution dyed fiber.

No. 4, a blue-brown and gold upholstery fabric of four low cost fibers—Bemberg, viscose, acetate with cotton ground and backing, is entirely piece dyed. The acetate is colored a brilliant blue with the Bemberg a rich deep brown. At the same time the viscose and cotton are union dyed to a sparkling gold.

If all the parts of the braking assembly are not properly adjusted, or the brake lining is excessively worn, the loom will not be stopped off with the crank arms near bottom center, but the crank arms will turn on to near front center position before stopping, and of course this places the lay near front center. When this happens with the shuttle a part of the way up in the shuttle box on the shipper end, the end of the shuttle will project out far enough to contact the filling fork prongs. As the lay moves towards front center, the prongs will be raised and slide over the end of the shuttle to a point near front center position of the lay, and then the fork prongs will drop behind the end of the shuttle. When the weaver turns the crankshaft back to place the crank arms on bottom center for drawing the thread and starting the loom, the fork prongs will be dragged over the end of the shuttle and bent out of position (Fig. L, Page 68). With the fork prongs in this distorted condition, the usefulness of the filling fork is nullified. The prongs can sometimes be straightened and put back in running condition, but more often they have to be replaced to get satisfactory results.

The Check Strap

The primary function of the check strap is to cushion the impact between the picker and the point of the shuttle as the shuttle stops in the shuttle box after the pick from the opposite end of the loom. It also cushions the impact between the picker stick and the leather bumper, contained in the lay, on the forward stroke of the stick. Contact between the picker stick, on its forward stroke, and the check strap draws the check strap into position to check the picker stick, and hold it in position about two inches from the end of the lay in order to relieve the solid impact between the picker and the point of the shuttle and bring the shuttle to a slow cushioned stop in the box. This reduces the wear on the picker, and also prevents the shuttle from rebounding or bouncing when it comes to a stop in the shuttle box. Of course the check strap and the check strap frictions must be properly adjusted in order to get this desired result, because if these adjustments are not correctly made, the picker stick will not be held in check on its backward stroke, but will drop back and come to rest position against the solid end of the lay end plate. In this event the shuttle

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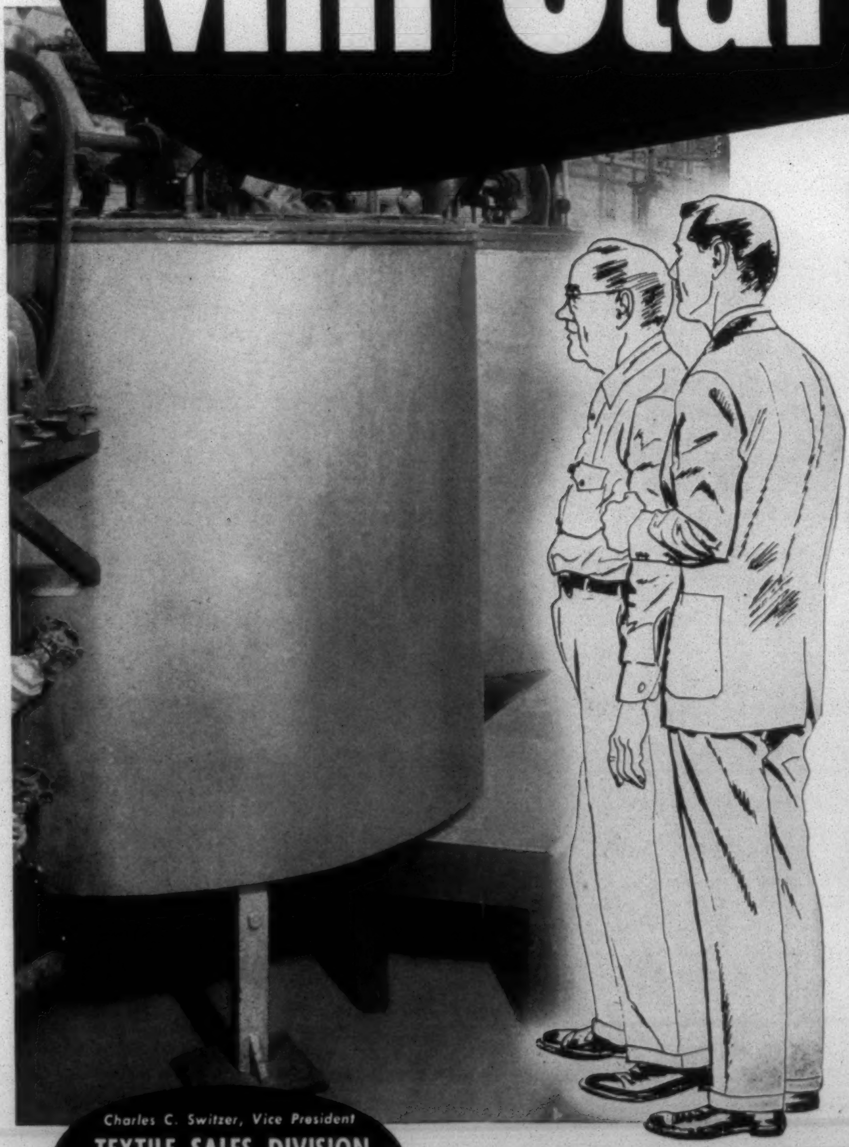

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will sometimes rebound out of the shuttle box far enough for the end of the shuttle to trap and bend the filling fork prongs before the loom is stopped off on the next rotation of the lay. The possibility of this happening would be greatly increased if the protector rod spring is not adjusted with sufficient tension on it to hold the protector rod daggers in place at all times.

The Binder Spring

It can justly be said that the binder spring is an aid to the check strap, as its main function is to exert pressure on the shuttle after the shuttle has entered the shuttle box, and to reduce the speed of the shuttle in the box and help bring it to a gentle stop when it reaches the end of its journey across the lay. Without the aid of the binder spring, too much would be demanded of the check strap, and the shuttle would rebound occasionally enough to extend out far enough to trap and bend the filling fork prongs.

Sometimes the back binder will bind against the lay end plate, the back box plate or the binder stud, and in this event, the results will be the same as if the binder spring was broken, or adjusted with insufficient tension on it. In fact, the bad results would be greatly intensified under this condition. The back binder was not named as an item to be checked by the fixer in the routine check, but the binder spring was named.

The Frog and Protector Rod Assemblies

The frog steels should be checked to determine if they are in good condition, because if they are excessively worn, chipped or rounded off they will allow the protector rod daggers to slip over them and fail to stop the loom off when the loom slams.

In this event, the shuttle could be caught in a position to trap and bend the fork prongs on the forward and backward movement of the lay. The fixer should also check the protector daggers, because if the pointed ends of the daggers are chipped off and excessively worn the same thing mentioned above can be the result. He should also make sure that the protector daggers are properly adjusted in relation to the frog steels, because this is the only means of stopping the loom off when the shuttle is not boxing correctly, and if the shuttle is not boxing as it should it can be caught in a position to trap and bend the filling fork prongs. And of course the fixer should check the protector rod spring to determine if the tension on it is properly adjusted, because the entire functioning of the protector rod assembly is absolutely dependent on the protector rod spring. The tension on the protector spring should be strong enough to hold every part of the protector rod assembly in rigid position at all times. Otherwise no part of the assembly can operate efficiently.

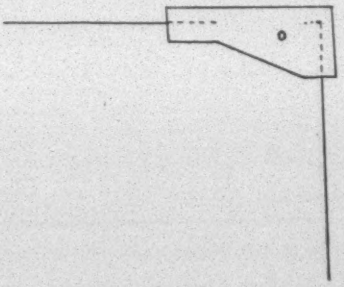
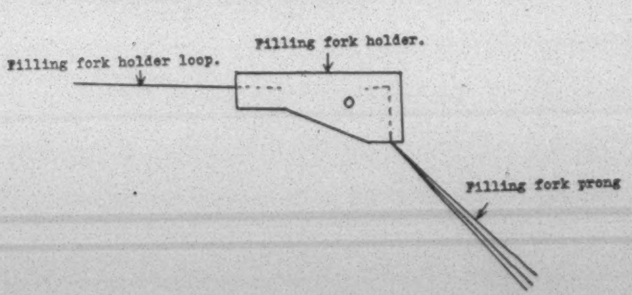


Fig. K *(above)* shows filling fork assembly in good condition. Fig. L *(below)* shows bent billing fork prongs resulting from their being trapped behind the shuttle.



In order to prevent excessive seconds from being made in the cloth and to maintain efficient operation of the loom, there are two things the loom fixer should always check when he is called to work on a loom regardless of what the trouble is. They are the shuttle and the reed. If neither need attention, only a few seconds are required to make the check on both. He should check for forward protruding dents in the reed and also make sure that the reed is tight in its place from end to end. This can be done easily and quickly by placing the tips of the fingers on both hands, one hand in front, and the other in back of the reed, against the reed and moving them from one end to the other end. If the reed is loose, or if there are forward protruding dents, the shuttle will be deflected from its straight course as it crosses from end to end of the lay, and this will sometimes cause the loom to slam off, and also throw the shuttle out of the loom. In doing so, the shuttle and also other parts are likely to be broken, or damaged beyond repair.

If the shuttle spring is loose it will cause filling breakage, while the loom is running, and will also prevent the filling feeler from functioning properly, causing partly filled filling bobbins to be transferred out of the shuttle, and will also cause filling bobbins to be run empty, and this will make mispicks in the cloth. If the bobbin is not in perfect alignment in the shuttle it will cause filling breakage, and will also make button hole selvages in the cloth by putting excessive tension on the filling yarn in the shuttle. If the shuttle eye is loose, excessively worn, or choked up with loose lint or yarn, which very often happens, it will cause filling breakage, and also will sometimes make button hole selvages. If the shuttle is excessively worn, or rough and splintered, it will cause excessive breakage of both warp and filling yarn.

So, after considering the damage that can arise from neglecting the shuttle and the reed, it should be easy to understand the vital importance of checking these two things as frequently as possible. Shown in Fig. K is the filling fork assembly in good condition. Shown in Fig. L is the assembly with the fork prongs bent after being trapped behind the shuttle.

Cotton is actually older than recorded history. Man has made use of the plant for thousands of years. In Peru, not long ago, cotton cloth was found on a mummy estimated to be over 5,000 years old. The cloth was of fine fabric of unusual length and still showed good tensile strength.

NO. 2 CUSTOMER OF REFINERS—

There's Plenty of Corn in Textiles

THE fact that the U. S. textile industry is a tremendous customer of other industries is, of course, readily recognized. For one thing, it is the biggest user of industrial chemicals. On the other hand, it is beyond doubt the most important connecting link between U. S. industry and agriculture. It provides about 75 per cent or more currently of the offtake of U. S. cotton production. Beyond that, it is the No. 2 non-food customer of the corn refining industry, which itself is one of the large links between industry and agriculture.

The interrelation of cotton and corn is something which probably seldom, if ever, comes to the surface in the popular mind, and doubtless the extent of the relationship is not realized as often or as fully as it might be even in the textile industry itself. There are several major or significant facts and developments which tend to point up such a relationship rather sharply.

One is the industry-wide research program of the corn refiners that has been under way for some time to unlock the deep mystery that is the molecular structure of corn starch, the industry's end-product, so to speak. The riddle has baffled the smartest chemists in the world, but most assuredly research promises that eventually the solution will open up a field of exciting discovery indeed. This holds more than passing interest for the textile industry. For textiles consume more corn starch than any other class of non-food industrial products except those of the paper and paperboard mills.

Then there is also the development, interesting enough in itself, that corn is assuming an ever larger stature in the Southeast's agriculture, the average corn yield per acre in most of the states in the region having doubled or even trebled in much less than a decade.

The textile industry, with its predominant Southern accent, uses directly well over a quarter of a billion pounds of corn starch annually in the weaving and finishing of fabrics. In cotton manufacturing, as is well known, of course, warp yarn is sized with starch before weaving and much of the fabric is given a starch size after weaving. If all the indirect ways are counted in which starch is used in the material, equipment and supplies essential to textile manufacturing, and in laundries, the consumption figure would be much higher, naturally.

Starch is the major product of the corn refining industry although there are, of course, many other byproducts and derivatives of the amazingly versatile corn kernel. Corn now contributes, in fact, about 90 per cent of the total supply of starches in the United States, according to Norman F. Kennedy, director of research of the Corn Industries Research Foundation. And he points out that the consumption of starch in the United States has increased from somewhat less than a billion pounds in 1939 to more than two billion pounds annually in the last few years.

The applications in the textile industry are many and varied, of course. The corn starch sizing gives the warp yarn stiffness and strength and reduces stretch and, paradoxically, it imparts elasticity and pliability too, and makes the yarn smooth and compact so that it offers less frictional resistance to the shuttle.

Corn starch of all kinds is used in finishing cotton fabrics, and this involves the operations of starching, weighting and "back-filling." Applied alone, or as a base with softeners, starch imparts a firm feel to the textile without affecting other qualities. "Backfilling" is the process of applying a liquid mixture containing corn starch to the back of the fabric such as, for instance, the backs of many kinds of carpets to keep them flat on the floor and to make them wear longer.

Starch and dextrin, a derivative, act as carriers and diluents for the dyes and chemicals required for developing and fixing colors in dress goods, draperies and other print cloths. Even some glass-fiber products require starch in their manufacture.

A major non-food use of crude corn sugar is the manufacture of rayon by the viscose process from woodpulp or other cellulose, and while this isn't technically a part of the textile, or spinning and weaving industry, the rayon output is, of course, spun and woven into fabric by the textile mills along pretty much the same basic principles as cotton.

In the viscose process, by which most of the rayon in the United States is manufactured, the woodpulp or other cellulose is liquefied by chemical treatment and forced through small holes into a hardening bath containing crude corn sugar and certain chemicals. The sugar's function here is to prevent the formation of crystals whose sharp edges would cut or damage the yarn, and its presence in the bath also improves the feel and quality of the finished fabric.

Another corn byproduct, corn oil, has applications in the textile as well as leather industries when it is treated with sulphuric acid. And zein, the versatile protein that is another byproduct of corn refining, is used as a basic plastic material and in the making of lacquer, and is a carrier for textile colors. And a textile fiber itself is made in part from a zein base. This, of course, is Vicara, which has some of the properties of wool, and is used in the manufacture of various textile end-products in the apparel field.

Zein is the most plentiful of the proteins in corn gluten. Separating zein from the other proteins is facilitated by the

A majority of the companies making up the Corn Industries Research Foundation will be exhibitors at the 1956 Southern Textile Exposition at Greenville, S. C., Oct. 1-5. They include: Anheuser-Busch Inc., Clinton Corn Processing Co., Corn Products Sales Co., The Hubinger Co., The Keever Starch Co., National Starch Products Inc., Penick & Ford Ltd. Inc., and A. E. Staley Mfg. Co.

fact that zein will dissolve in alcohol while the other proteins will not. The alcohol, however, liquefies not only the zein but also much of the oil in the original corn gluten, and some natural pigment, leaving a still undissolved residue.

The solvent, hexane, comes to the rescue here, dissolving the oil and pigment which are more soluble in hexane than in alcohol. A continuous centrifugal removes these unwanted factors from the zein. When the zein solution is sprayed on cold water, the zein itself precipitates as a brittle solid. It is then skimmed off, dried and ground to a fine powder.

Along the way to obtaining starch, the corn refiners have learned how to separate efficiently the other constituents of the kernel, formerly thrown away as waste, and how to turn them into byproducts from which are made many useful things.

And starch, still the end-product of the kernel, today is literally tailor-made into innumerable modifications for uses ranging from oil-well drilling to bookbinding, or aluminum to dynamite, or foundry casting to vitamins.

Just as nearly everything an individual comes in contact with in his usual daily routine—eating, sleeping, working, smoking a cigarette, signing a check or reading or writing, or driving his automobile and so on—represents in some degree the utilization of the corn kernel, so does nearly everything used by the textile industry—machinery, equipment, supplies, packaging materials, and so on—also constitute some use of the amazingly versatile corn starch.

Actually, however, only about four per cent of the gigantic U. S. corn crop is processed by the corn-refining industry, which separates the parts of the corn kernel and makes them into an endless variety of derivatives which are useful and beneficial to mankind in time of peace and critically needed and vital in time of war or national emergency.

Roughly, about 85 per cent of the corn crop—which runs to three billion or more bushels in a good year—is fed on farms to hogs, beef cattle and poultry, and thus it is the basis of the American meat industry. The remaining 15 per cent, or 500,000,000 bushels in a bumper year, is the part of the crop which goes to market, or to the various industries which do many things with the lowly kernels.

The "dry milling" industry, for instance, makes corn meal, hominy and breakfast foods of many kinds. The feed manufacturers take a lot of that industrial 15 per cent of the crop and put it into concentrated feed rations for livestock and poultry. The distillers convert their chunk into alcohol, both beverage and industrial. The corn refining industry takes about 130,000,000 bushels in an average year and makes starch, sugar, oil and various feeds.

And while industrial uses of corn starch quantitatively are greater in industry than in food, about 75 per cent of all the corn-refining industry's products and derivatives are used for food and feed and only about 25 per cent for industrial uses. But the margin for industry is important and is growing rapidly.

Though the starch molecule remains one of the most baffling of all chemical mysteries, the riddle has already been penetrated to the extent that at least two factions of starch have been identified and methods of determining the faction-content of starches from various plant sources are now known. Increased knowledge of the useful processes of the factions has widened commercial application. Already, in fact, several chemical products have been made from starch.

A number of the nation's outstanding laboratories, employing various approaches to the study of the chemical structure of starch, are engaged in research supported by the Corn Industries Research Foundation, and these programs, involving virtually all branches of biological and chemical sciences, are co-ordinated annually through the medium of a four-day forum known as the Starch Round Table.

The mystery concerning the molecular structure of starch disturbs the dreams of many a scientist who, having penetrated it a little way, sees the promise of what is still beyond the compass of his knowledge. And if he can unlock the whole mystery, the resulting benefits to mankind could be almost limitless. Intriguing, of course, is the speculative question: What benefits? A new fuel? New textile products or new paper products? Maybe a starting point for a new chemical industry?

The potentialities of starch that can be exciting and indeed revolutionary to industry are as of now, however, little more than a gleam in the scientists' eyes. And it's small wonder the elusive keys to the riddle often disturb their dreams.

Next They'll Be Shagging Flies

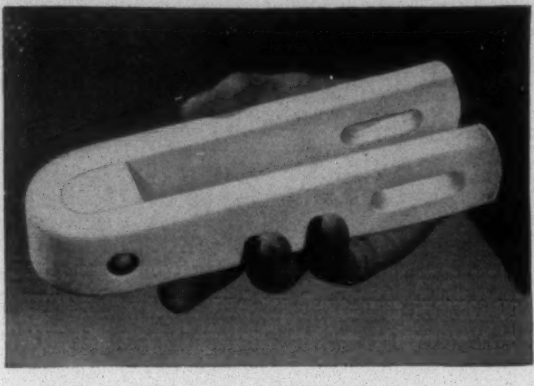
Tarpaulins woven with the S.R.R.L. high-pickage loom attachment are now in their sixth season of use as field covers on the athletic field of the New Orleans Pelicans, professional baseball club. These tarpaulins have already undergone five years of severe testing as covers for the pitcher's mound and the batter's box, and have shown excellent durability and water-resistance. This high degree of water resistance is due solely to the closeness of the weave, as the fabric received no waterproofing treatment; the only treatment given was a mildew-proofing applied every second year, made necessary by the warm, humid New Orleans climate.

The high-pickage loom attachment was developed by research workers at the Southern Utilization Research Branch of the Agricultural Research Service, U.S.D.A., in New Orleans. It makes possible the weaving of fabrics with a much higher thread count, or closer construction than is normally possible. Attachments are now available that can be driven from above the warp as well as below the warp, so that the device can be used with any type cotton textile loom.

The tarpaulin fabric woven at the Southern Utilization Research Branch for the field test by the Pelicans was about one-third lighter than the chemically-treated cotton tarpaulin customarily used for field covers. Tested for six months against the commercially-treated tarpaulin, the high pickage fabric lost only five per cent of its resistance to water penetration, while that of the commercial fabric decreased by 41 per cent.

At the end of five seasons' service, the high pickage fabric was found to become wet rapidly, due to bleaching out of natural waxes in the cotton, but its resistance to the leakage of water remained essentially the same, occurring at a hydrostatic head of 21 inches, compared to 22 inches for the fabric before exposure to weathering.

HARRIS HEAVY DUTY LUG STRAPS AND HOLD UPS



All Canvas Lug Straps and Lug Strap Hold Ups are made of the best quality materials we can buy, put together with the best workmanship. Lug Straps are available with or without plugs in 1" increments from 8 to 18 inch lengths and in 1½ and 2 inch widths. Partial or full leather lining available to suit requirements. Lug Strap Hold Ups available in all standard sizes in either canvas, leather or hairon leather.

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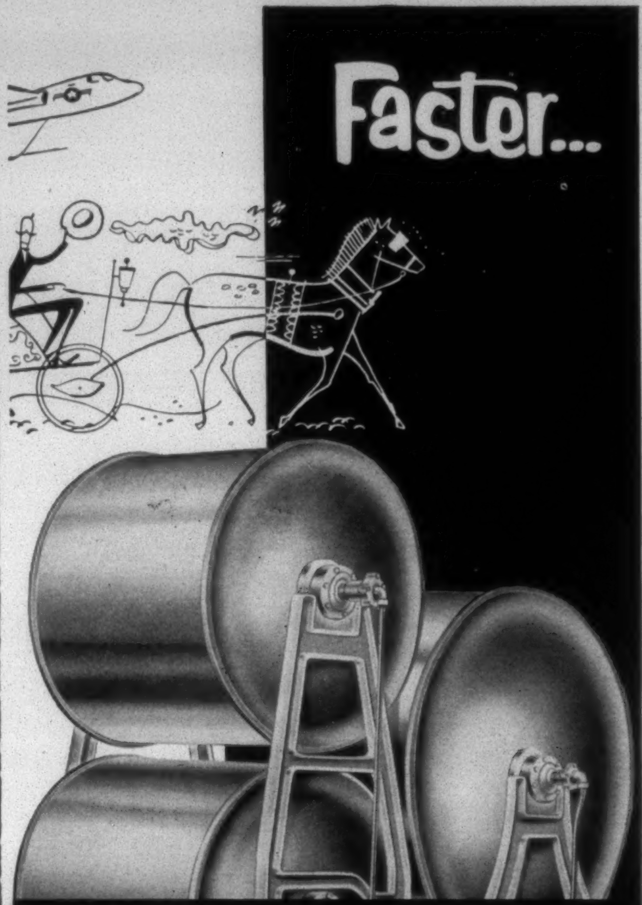

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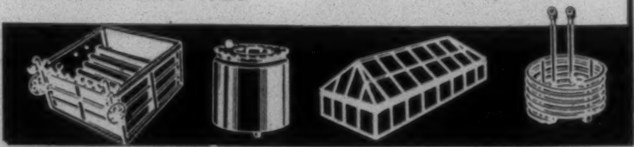


Bleaching, Dyeing & Finishing

A. A. T. C. C. Convention To Be Part of Perkin Observance Next Month

THE Perkin Centennial, commemorating the discovery of the first synthetic dye by William Henry Perkin in 1856, will be held during the week of Sept. 10 at the Waldorf-Astoria Hotel in New York City. Highlighting the event will be the presentation of over 60 papers authored by some of the world's leading authorities on various aspects of the field of dyes and colors, many of whom will also act as moderators or participants in panel discussions. Sponsored by the American Association of Textile Chemists & Colorists, the event will bring together some 27 leading technical, chemical and scientific societies associated with the production, application and merchandising of color. The annual A.A.T.C.C. convention will be part of the centennial, and will be held Sept. 13-15.

The opening day of the centennial has been designated "International Day," and will feature a technical session on "Colorfastness of Textiles," sponsored by the A.A.T.C.C. and the American Society of Testing Materials. William D. Appel of the National Bureau of Standards, Washington, D. C., will preside, and papers to be delivered include: "A Century of Progress in Colorfastness Test Methods," by M. L. Staples, Ontario Research Foundation; "Current Developments in Fastness Testing: France," by J. P. Niederhauser, Compagnie Francaise des Matieres Colorantes; "Current Developments in Fastness Testing: Germany," by Paul Rabe, Farbenfabriken, Bayer, A. G.; "Current Developments in Colorfastness Testing: Switzerland," by Henry Ris, J. R. Geigy, A. G.; "Current Developments in Colorfastness Testing: United Kingdom," by P. W. Cunliffe, British Cotton and Wool Dyers Association; and "Current Developments in Colorfastness Testing: United States," by Charles A. Sylvester, E. I. du Pont de Nemours & Co. Inc. Sir Robert Robinson of The Society of Dyers and Colourists, Nobel Prize winner, will address the opening day luncheon on "Sir William Perkin—His Life and Work." In the afternoon there will be a symposium at which a panel of leaders in their fields will discuss and answer questions on "Color—the Catalyst of Commerce."

Centennial Participants

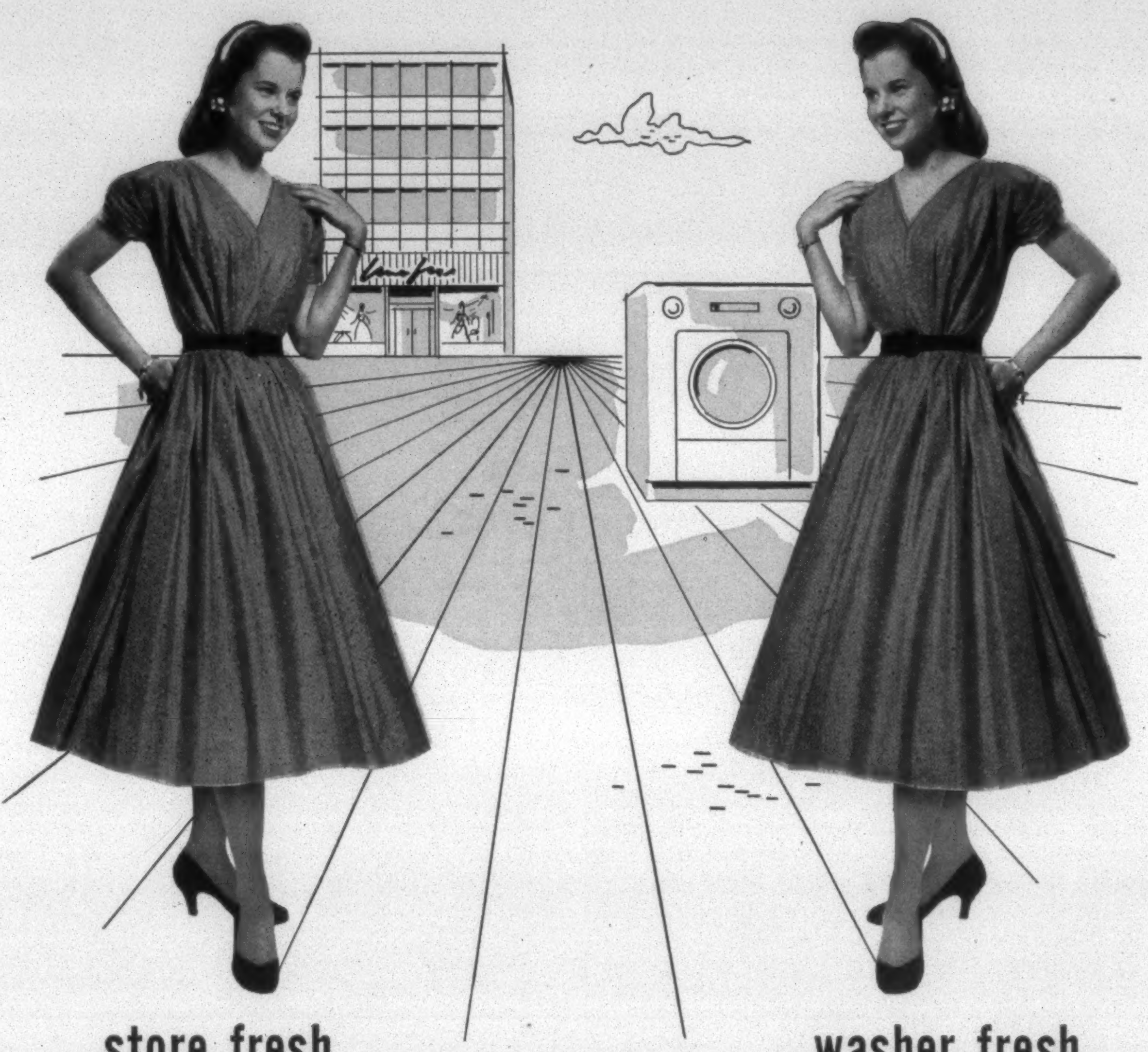
The following technical, scientific and industrial societies will participate in the Perkin Centennial to be held at the Waldorf-Astoria Hotel in New York City during the week of Sept. 10: American Association of Textile Chemists & Colorists; The Society of Dyers and Colourists; American Association for the Advancement of Science; Optical Society of America, Inter-Society Color Council; American Chemical Society; Synthetic Organic Chemical Manufacturers Association; Manufacturing Chemists Association; American Psychological Association; U. S. Department of Commerce; National Retail Dry Goods Association; Canadian Association of Textile Colourists & Chemists; Textile Research Institute; Dry Color Manufacturers Association; The Color Association of the U. S. Inc.; National Paint, Varnish and Lacquer Association; Technical Association of the Pulp and Paper Industry; The Society of the Plastics Industry; National Research Council Advisory Committee; Institute of Food Technologists; American Pharmaceutical Association; Society of Cosmetic Chemists; American Society for Testing Materials; Good Housekeeping Institute; American Section of the Society of Chemical Industry; American Standards Association; and The American Leather Chemists Association.

Technical sessions on Tuesday, Sept. 11, will include a symposium on "The Physics of Color," presided over by E. I. Stearns, American Cyanamid Co. Papers will include "Color Control—Twenty-Five Years of Progress," by Frank J. O'Neil, Pacific Mills; and "Progress in Measuring Color Differences," G. W. Ingle, Monsanto Chemical Co. Another topic, "Color in National Defense," will feature a paper by Stephen J. Kennedy of the Quartermaster Research and Development Command. Charles C. Concannon of the U. S. Department of Commerce will also present a paper on "The Impact of Synthetic Dyes on Our Economy" at a session sponsored by the Commerce Department.

Sessions on Thursday morning, Sept. 13, will include "The History of Dyeing," sponsored by the A.A.T.C.C. and presided over by W. M. Scott of the U. S. Department of Agriculture. Papers will include "The Development of Fast Colors for Textiles," by F. M. Fordemwalt, American Cyanamid Co.; "The Development of the Art of Textile Printing," Herman P. Baumann, American Aniline Products; and "The Development of Modern Textile Dyeing Techniques," P. L. Meunier, E. I. du Pont de Nemours & Co. Inc. A second session, "The Manufacture of Synthetic Dyes," will feature a paper by Samuel Lenher of Du Pont on "America's Debt to Perkin."

Olney Medal Award Luncheon

At noon, Sept. 13, the highest honor that can be bestowed by the A.A.T.C.C., the Olney Medal, will be awarded to Walter Julian Hamburger, director of Fabric Research Labs, for his outstanding contributions to science. This



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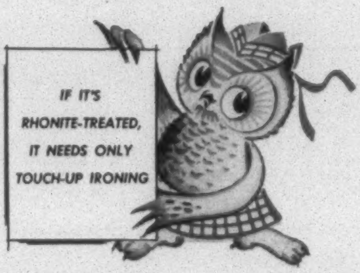

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Representatives in principal foreign countries event is one of the highlights of the A.A.T.C.C. convention.

On Thursday afternoon, the A.A.T.C.C. and the Canadian Association of Textile Colourists & Chemists will jointly sponsor a symposium on "The Application of Colorants to Textiles." Presiding at this session will be L. J. Sheps of Trilon Chemicals Ltd. Papers will include "The Application of Colorants to Glass Fibers," by R. T. Caroselli of Owens-Corning Fiberglass Corp.; "Internal Application of Colour in the Manufacture of Man-Made Fibers," C. E. Coke, Courtaulds Ltd.; and "Improvements in Dyeing Cotton with Sulfur Dyestuffs," J. L. Crist, R. E. Rupp, Southern Dyestuff Corp.

A symposium on "The Chemistry of Synthetic Dyes," sponsored by the American Chemical Society, is scheduled for Friday, Sept. 14, with M. A. Dahlen, Du Pont, presiding. Papers will include "Early Synthetic Dyes," by Hans Z. Lecher, consultant; "Dyes for Cotton," by W. W. Williams and D. L. Randall, General Aniline & Film Corp.; "Dyes for Animal Fibers," by James Ogilvie, National Aniline Division, Allied Chemical & Dye Corp.; and "Dyes for the Hydrophobic Fibers," by H. E. Schroeder and S. N. Boyd Jr., Du Pont.

William Henry Perkin

William Henry Perkin, who discovered the first synthetic dye by accident 100 years ago, was born in London, England, in 1838. He became interested in chemical experiments at the age of 12, and entered the Royal College of Chemistry when he was 14, where he was fortunate in having as his mentor the renowned German chemist, Hofmann. Hofmann was so impressed with Perkin that he made him an honorary assistant in the research laboratory within a few years.

Wanting to conduct some research projects of his own, Perkin converted a room in his home to a laboratory where he could work during evenings and vacations. One of his projects was to develop a method for the synthesis of quinine. It was while working on this project that he made his remarkable discovery. Instead of the clear, crystaline mass he was seeking, his experiment turned out a black precipitate. Further work upon this substance resulted in the isolation of a purple color which became the first dye ever produced from coal tar.

He sent samples of his dye to a firm which expressed great interest in its possibilities, and so encouraged Perkin to produce it for commercial use. Along with his father and brother, Perkin opened a small factory at Greenford Green, near Harrow, in June 1857. Six months later, after learning that the discovery of the dye was much simpler than its actual production, Perkin turned out his first lot of dye. It was no easy matter to develop a market for his dyes, but Perkin did, in both the silk and cotton fields, as well as on wool and wool and cotton blends.

He continued improving his product and conducting further experiments until he retired from active participation in the industry in 1874 when he sold his interest in the firm. His work from then on had no direct connection with dyes although he did write a number of papers on the subject. He died July 14, 1907, only a year after the 50th anniversary of his momentous discovery.

Perkin Medal Award Dinner

The 50th Perkin Medal, an award usually made in January, will be presented Friday evening as part of the centennial by the American Section of the Society of Chemical Industry to Edgar C. Britton of the Dow Chemical Co. The award will be made at a dinner in Dr. Britton's honor in the Grand Ballroom of the Waldorf-Astoria. Dr. Britton, director of the Edgar C. Britton Research Laboratory of Dow Chemical in Midland, Mich., is a past president of the American Chemical Society.

On Saturday morning, Sept. 15, the Textile Research Institute will sponsor a session on "Theories of Dyeing," with Howard J. White Jr. of T.R.I. presiding. Papers scheduled to be heard at this session include "The Theory of Dyeing Natural and Synthetic Polyamide Fibers," Milton Harris, Harris Research Laboratories; "The Theory of Dyeing Cellulosic Fibers," Emery I. Valko, Onyx Oil & Chemical Co.; and "The Theory of Dyeing Polyacrylic and Polyester Fibers," W. R. Remington and H. E. Schroeder, Du Pont.

A.A.T.C.C. Intersectional Contest

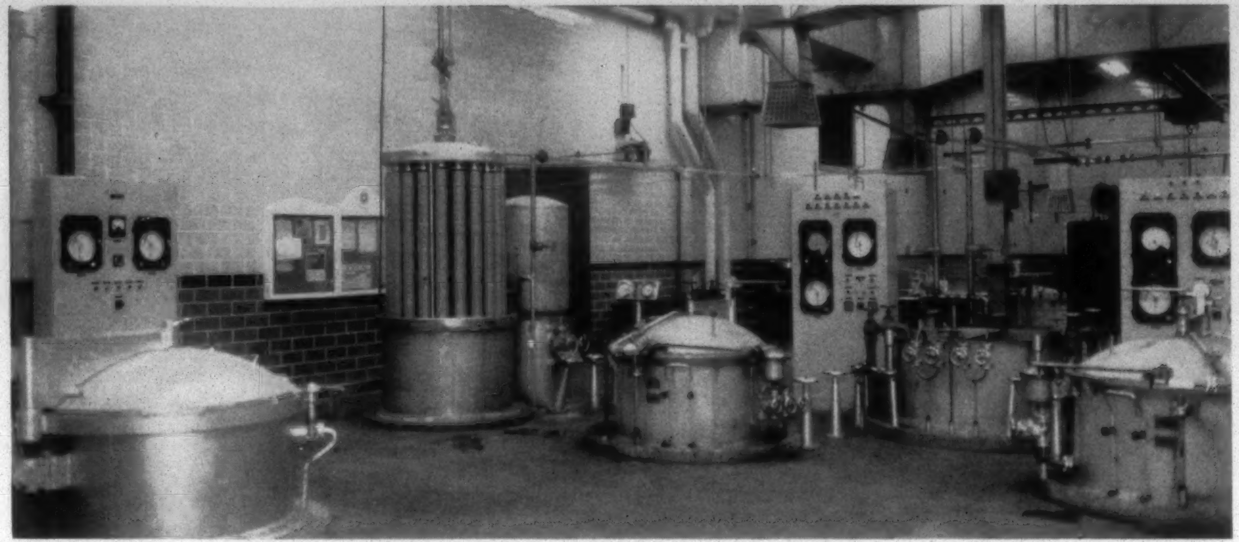
The annual A.A.T.C.C. intersectional contest will be held Saturday afternoon, Sept. 15, with Earle D. McLeod of Arnold, Hoffman & Co. Inc. presiding. This year there will be ten sections competing for prizes, the largest number of papers ever submitted in one contest. Participating will be the Hudson-Mohawk, Midwest, New York, Northern New England, Pacific Southwest, Philadelphia, Piedmont, Rhode Island, South Central, Southeastern and Washington sections.

The centennial will close Saturday night with the annual A.A.T.C.C. banquet.

Exhibits

Three rooms on the ballroom floor of the Waldorf-Astoria will be devoted to exhibits, primarily of an educational nature. In the Astor Gallery there will be an exhibit sponsored by the manufacturers of organic colors, "A More Colorful World." Against the historical background of man's attempt to color materials with natural dyes, this display will demonstrate the properties of modern dyes and their uses. In the Jade Room, the manufacturers of fibers will display the whole range of present-day colors and fabrics for every requirement, while in the Basildon Room companion exhibits will display the variety of finishes that are available to improve the serviceability and increase the value of fabrics, both natural and synthetic. In an area beside the entrance to the Grand Ballroom, there will be a special exhibit featuring colorfastness, testing equipment and methods developed for the benefit of the consumer and the industry by the A.A.T.C.C. The exhibits will be open on Sept. 11 from 10:00 a. m. to 6 p. m.; Sept. 12-14, 10:00 a. m. to 9:00 p. m.; and on Sept. 15 from 10:00 a. m. to 1:00 p. m.

Other special events at the centennial will include a separate program for the ladies with activities scheduled daily throughout the week.



This view of static pressure line at American Thread's Sevier plant shows, *from left*: drying kier and immediately to rear the control panel for drying process, after-treatment tank, dye kier and its control panel, chemical addition tank, second dye kier and control panel. Not shown are two after-treatment tanks.

American Thread Installs Static Pressure Equipment at Sevier

Three years ago it was brand new, inside and out. But keeping up with textile finishing means buying and using new equipment, such as American Thread Co. has done at Sevier, N. C.

POSITIVE steps in the further improvement and control of quality and production in the finishing of thread and yarn products have been achieved by The American Thread Co. with the installation of new static pressure dyeing and drying equipment at its Sevier, N. C., plant. The equipment consists of six units which are two dyeing kiers, three after-treatment tanks and a dryer.

Even though the Sevier plant is only three years old, and is considered to be the most modern operation in America for the finishing of thread and yarn, the addition of static pressure equipment to the dyehouse facilities was considered a "must" by forward-looking and modern thinking executive management. It is expected to yield important "extras" in quality and service to the customer.

Production is expected to exceed present type machine dyeing due to assembly line operation. Dyeing units being utilized for dyeing operations only and after-treating tanks used for pre and after-treating. Use of static pressure for dyeing results in dyeing deeper shades more effectively.

The closed circuit pressure dryer reduces drying time to an average of 45 minutes compared to 18 to 20 hours required by present circulating dryers. This type drying allows a control on the moisture content left in the packages after drying.

The new dyeing equipment permits high temperature or high pressure dyeing. The high temperature apparatus consists of a pressure tank connected to the dye liquor circulating system. As the dye liquor is heated it expands into the pressure tank, compressing the air in the tank. This produces a static pressure on the circulating dye liquor corresponding to the temperature of the dye liquor. By controlling the pressure, the temperature can be increased without boiling the dye liquor.

In high-pressure dyeing, the machine operates under a predetermined static pressure established by a separate pressure pump. Static pressure is built up as additional dye liquor is forced into the system by the pump. As the liquor

Parkus Chrisawn shows how sample for inspection may be taken from sample package receptacle on side of dyeing kier. Closure on kier is remarkably simple, and is secured much like the lid on a home pressure cooker.

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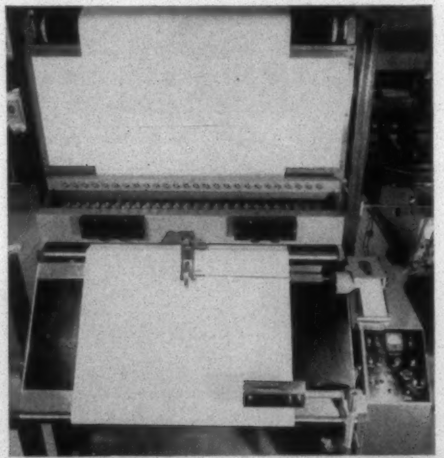

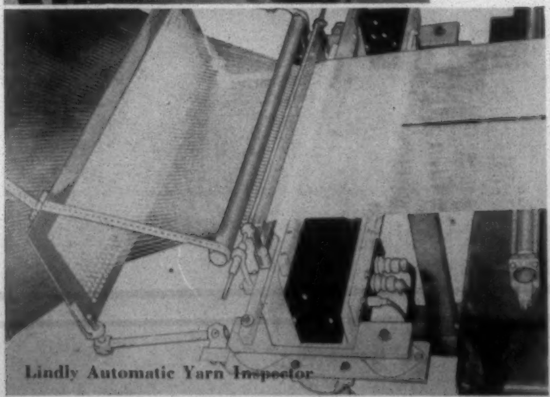

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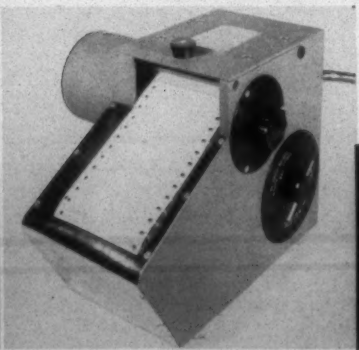

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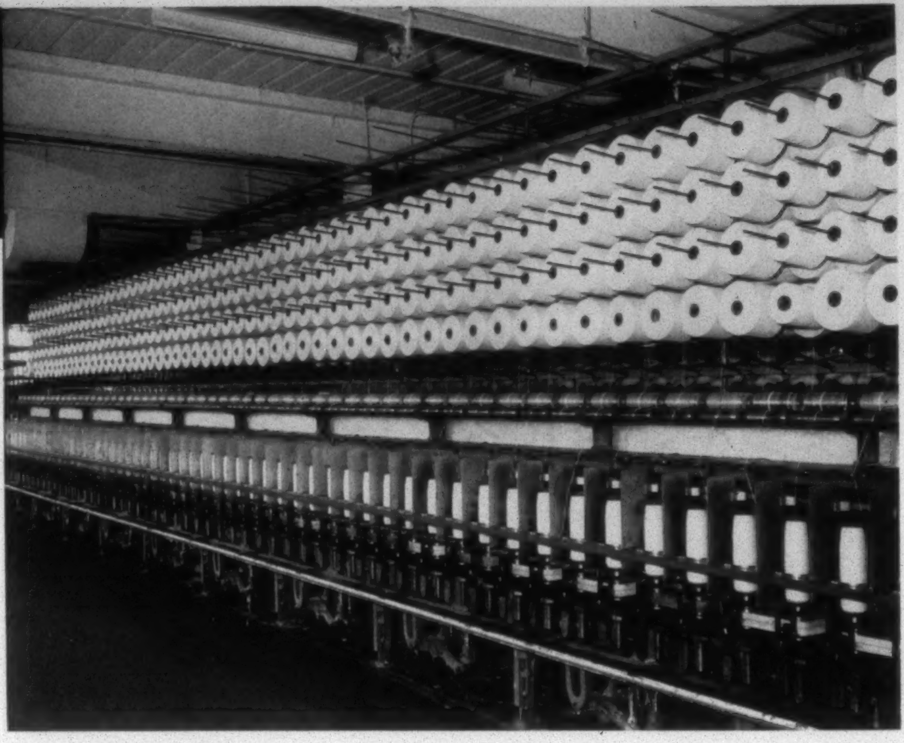

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is introduced, it compresses an air cushion in the pressure tank, and sets the complete system under static pressure.

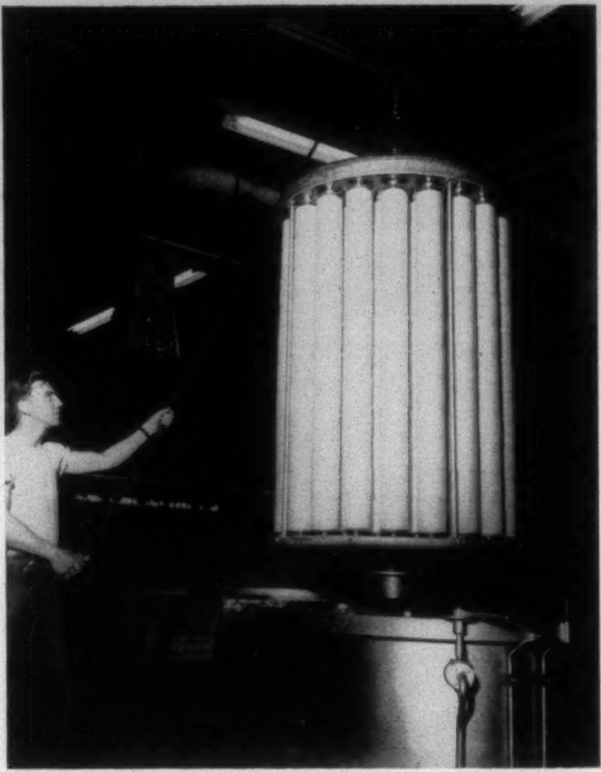
The ability to go to high temperatures with the dye liquor in the kier tends to open up the yarn a little more and permits complete penetration by the liquor. This is particularly advantageous for hard twisted yarn or thread.

An extra benefit assures a more positive control of the finished product. On the side of the dyeing kier is a sampling receptacle. A sample package placed inside may be checked for color at any time without opening the kier.

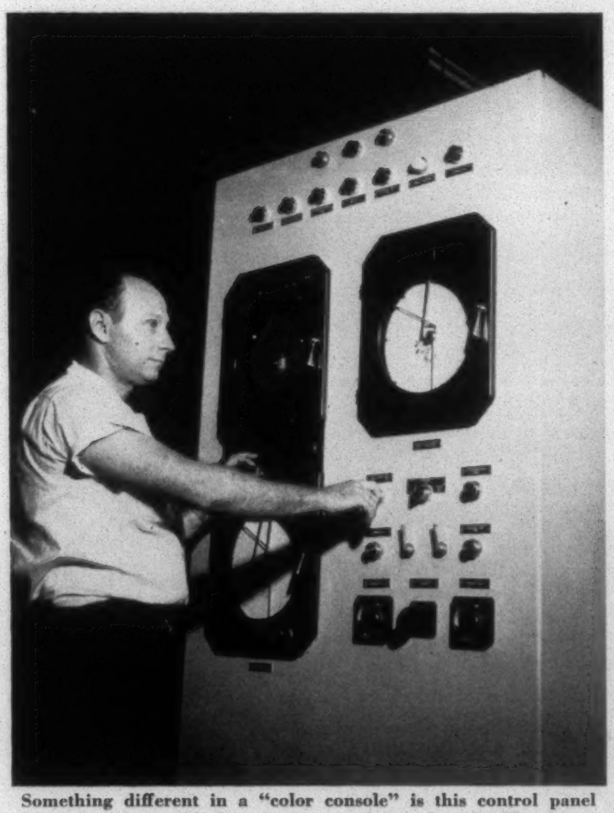
The closed circuit high pressure dryer has a cooling system or condenser through which moist heated air from the drying kier passes. By controlling the rate of flow of the cooling water in the condenser, it is possible to regulate the amount of moisture left in the air for recirculation.

The accurate control of a quantity of moisture in the air being recirculated through the packages during all stages of drying is an aid in preventing excessive drying either on inside or outside of the packages, assuring better running quality. Cooling water used in the closed circuit dryer is recovered after being heated and may be put to work in dyeing, rinsing, or be recirculated into the hot water system.

Static pressure lends itself to vat dyeing at normal vat dyeing temperatures. As additional experience is acquired in operating the equipment, American Thread dye experts expect to find new and broader uses of vat dyeing by static pressure.

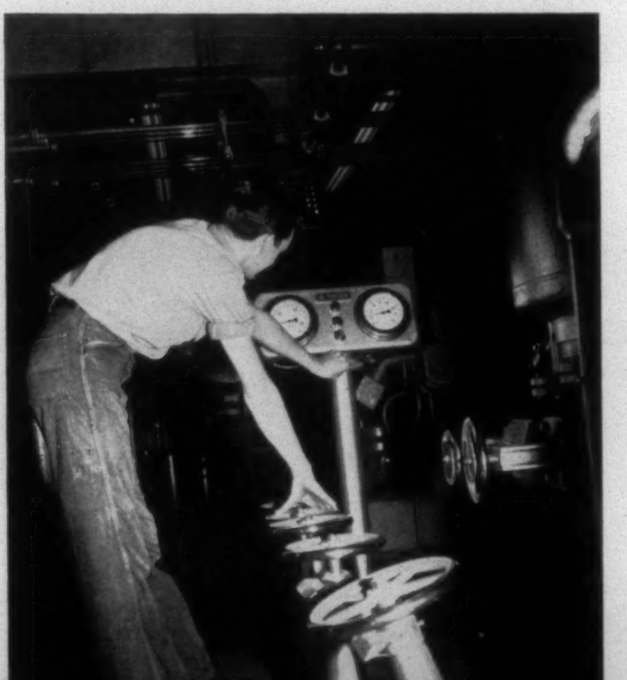


Carrier is removed from the dryer by remote control overhead crane. Static pressure drying with its moisture control factor allows control of moisture content left in packages. Operator is Parkus Chrisawn.



Something different in a "color console" is this control panel for the new assembly line dyeing now being done by The American Thread Co. in its modern finishing plant at Sevier, N. C. Operation of a closed circuit dyeing system for either high temperature or high pressure dyeing may be set in motion from this panel. Equipment operates on the principle of static pressure maintained in a closed system both for dyeing and drying. It consists of two dye kiers, three treatment tanks and drying kier. Dye liquors are prepared in a central dye laboratory and conveyed throughout the dyehouse in glass pipes.

In this installation, dyeing units are utilized for dyeing only and separate treatment tanks used for pre and after-treatment. This results in assembly line dyeing compared to machine-type dyeing generally used in the industry. The operator is Glen Brown.



Valve is being adjusted for rinsing in the after-treatment tank. The new stainless steel, high-temperature, high-pressure dyeing apparatus is far too valuable merely to use it for pre or after-treatment. Dyehouse man is Ray Watson.

Maintenance, Engineering & Handling

Pipeline Planning, Installation & Care

By LEO WALTER, Consulting Engineer

This brief survey does not attempt to cover every element of mill piping, but it does serve to blow some of the dust from the mill man's usual disregard of the subject.

THE number of pipelines in a textile plant carrying steam, water and other liquids, or gas and compressed air for processing purposes in the finishing department is usually considerable. Correct piping of fluids is, therefore, just as important for plant efficiency as any other piece of plant equipment, and has to be properly planned, correctly installed, and periodically inspected and maintained.

What is called "preventive maintenance" applies to piping systems in order to keep them in good working order. Where piping extensions may have been added during the years in a haphazard way, overload of mains results. In other instances piping maintenance is either neglected or only performed when something has already broken down. This state of affairs will reflect itself ultimately in a high maintenance bill, in reduced or irregular output and in general dissatisfaction. It does not necessarily follow that in a single mill all the deficiencies are present, but if one or the other weakness of the piping system can be amended, better working conditions will result. The following recommendations are flexible, and no hard and fast rulings can be given, because working conditions vary from plant to plant. First installation cost plays its part and often limits achievements for improvement.

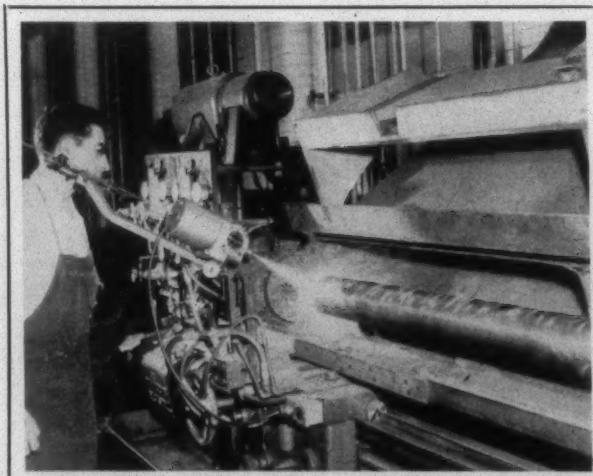
Piping systems can be classified according to the fluid they convey, or in view of the purpose they serve. Distance, volume, pressure and corrosive qualities of the piped fluid allow for sub-classifications. Fluids conveyed can be compressible, such as air, gases or steam, or they are incompressible liquids. A piping system can cover a small area, or can be extended over many square miles. The fluid can be conveyed under high pressure or can flow under low pressure. Volumes handled vary in practice, and so do pipe sizes, and types of fittings, for shut-off or for throttling duties. The over-riding factor is, however, the purpose for which the piping system serves. It may be a hot water distribution system, or a cooling water system for an I.C. engine with an extended layout. Heating or cooling systems, compressed air systems, steam distribution mains for process work, all require careful planning and maintenance and suffer from patch work.

Pipe Sizing of Steam Pipes

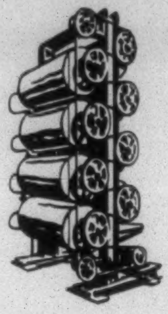
It is not intended to go here into the intricacies of pipe sizing, which can be found in textbooks, but rather to suggest a plan for achieving improvements. The first question in a plant survey is to make sure whether the pipe size is right for the actual load, and this should be ascertained by rate of flow measurements. The use of a portable steam meter is invaluable in steam distribution systems. Oversized steam pipes cause unnecessary heat losses, a costly business. An oversized piping system also requires bigger maintenance costs. The first step for improvement is, therefore, a very careful checking of pipe sizes throughout the mill, by ascertaining what fluid velocities are present, and by comparison with standard figures. Many a surprise will result from these measurements. What should be realized is that a threaded boss or a flanged connection on plant equipment does not indicate the correct pipe size, which latter has to be found by calculation. It is not proposed to discuss correct pipe sizing further, for it is a practical science in itself.

Efficient Design of Piping

The layout of piping in a new mill is usually placed in the hands of experts. The design of extensions in an existing



METALLIZING LOOM TAKE-UP ROLLS—Mogul metallizing proved an efficient method at one mill for giving take-up rolls the proper tooth, for taking up cotton on the loom without stretching or tearing the cloth. The take-up rollers are of standard boiler tubing—five x 49 inches—plugged ends with stud shafts. The rollers are first sandblasted to prepare the surface for metallizing. Then, with the Mogul metallizing gun, using 3/16-inch No. 2 stainless steel wire, the roller is sprayed to .0025-inch oversize, an operation that takes only about 15 minutes. No further processing is required and the roller surface is just right for cotton cloth. It is also rust-proof.



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To clean its copper and stainless steel dyed fabrics dryer, one mill was accustomed to use caustic — applied with a cloth on a broom. Only the lowest four "cans" could be washed — the rest proved inaccessible.

Now, by spraying Oakite Composition No. 24 solution with the Oakite Hot-Spray Unit, every "can" is cleaned thoroughly — even the topmost. Traces of dye and bleach are easily, quickly removed — cylinders restored clean as new — solving also the fabrics reject problem.

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mill may be performed by specialists, but more often than not patchwork methods are applied in connection with piping installations to additional plant equipment. Any alteration in plant layout can affect piping; for example, steam pipes may be left in place, after a piece of plant equipment has been scrapped, with just a leaky shut-off valve at the end, thus contributing to heat loss; or the number of machines may be doubled, and still be connected to the existing steam mains, with consequent bigger pressure loss and consequent steam starvation.

Correct positioning of valves in pipelines is another point which is much too often treated as of minor importance. Bearing in mind that an inaccessible or less accessible valve is difficult to service, or even to operate in case of emergency, wrong positioning of valves has often accounted for trouble. Any reorganization of piping has to locate valves, steam traps, or instruments where they are easily accessible and serviceable. Going around a plant with eyes open for the accessibility of auxiliary piping equipment often discloses to the progressive engineer many peculiar abnormalities, and a special regular yearly piping survey seems worthwhile.

Pipe Identification

Preventive maintenance of piping is made easier by using the well-known standard color scheme for identification. A thorough knowledge of pipework details is also encouraged by keeping available an up-to-date layout drawing and up-to-date notes regarding alterations and extensions. The small and medium-sized mill is worse off in this respect than the larger plant, the latter generally having its own drawing office and maintenance department. There is, however, no need for even a small mill to be without correct up-to-date piping drawings, which can be prepared by a consultant or by a specialized piping contractor, to be ready when required, or can be worked out by the plant engineer from rough pencil sketches. If this plan be supplemented by a full list of all component parts, with their sources and dates of supply, so much the better.

Replacements

Records should also be kept disclosing at a glance any replacements made in pipework during each year. Whether they take the form of a card index, as in a large mill, or just a log book is immaterial, as long as information can be obtained at a glance. Any time a worn-out valve or pipe is replaced, a note should be kept for future reference, which records often come in very handy. Whenever a replacement in pipework or fittings is wanted the order for replacement may be sent out by the buying office of a mill, but such "repeat" orders should be carefully examined by the plant engineer. For example, a certain type of valve might have caused trouble during its much-too-short lifetime, and it might be advisable for the plant engineer to specify something better, and to insist on obtaining it in spite of a higher price. Instances of "grading-up" are numerous. A new valve should perhaps have a stainless steel renewable seat instead of the brass seat used hitherto, or it should be of the streamlined seatless type to minimize pressure loss and wire-drawing. In another instance it might be advisable to replace an ordinary globe valve by a V-port valve type, which latter is better suited to fine throttling duties.

It can hardly be over-emphasized that a regular very detailed survey of the whole piping installation should be made at least once a year, unless a major change of methods of manufacture involving the use of high pressures, temperatures and altered pipe volumes makes a special additional survey necessary in the interim. The influence of increased load on pipe strain, expansion, supports, vibration, drainage of condensate, etc., should be carefully studied.

A piping system should also be properly sectionalized. Any individual section of piping should be planned to be cut out at will without the use of blank flanges, etc. Reducing valves or control valves should always be fitted in a bypass with isolating valves, to enable servicing or repair without interrupting the operation of the process.

A.I.E.E. Textile Conference Nov. 1-2

The fifth annual conference on "Electrical Application for the Textile Industry," which is sponsored jointly by the textile subcommittee of the committee of general industry applications of the American Institute of Electrical Engineers and North Carolina State College, will meet in Raleigh, N. C., on Nov. 1 and 2.

The tentative program consists of three sessions, featuring speakers of national prominence on electrical equipment and applications. Registration and tour of the school of textiles and electrical engineering laboratories will take place on Nov. 1, until noon. Sessions begin Thursday, Nov. 1, followed by a joint dinner and get-together that night. Friday morning, there will be another meeting with papers, which will be of ultimate interest to the textile industry. After a planned lunch, the Friday afternoon programs conclude with one of the outstanding features which is presented each year. A panel discussion, in which the audience participates, customarily involves "down-to-earth problems" of wide scope; and sometimes several of the best solutions are offered by the panel. This panel is composed of all the speakers on the program.

National Power Show In November

Exhibitors are rapidly aligning displays for the 22nd National Exposition of Power and Mechanical Engineering, which returns, November 26-30 to New York City, to the exceptionally fine facilities of the new Coliseum, after a four-year absence. As heretofore, the exposition will be held under the auspices of The American Society of Mechanical Engineers.

Some 250 leading manufacturers have reserved space already.

One of the most novel displays at the exposition will be the Guide-O-Matic industrial tractor, which safely threads the aisles of an industrial plant with several trailer loads of material in tow, without an operator at the steering wheel.

Equipment for the production and use of steam will constitute a large proportion of the exhibits at the Coliseum, for the reason that steam is universally employed in power production and in many and varied operations employed by all manner of industries.

Electrical equipment will be strongly represented, not only in power units, such as a variety of motors and motor drives, but in supplementary applications in factory and field.

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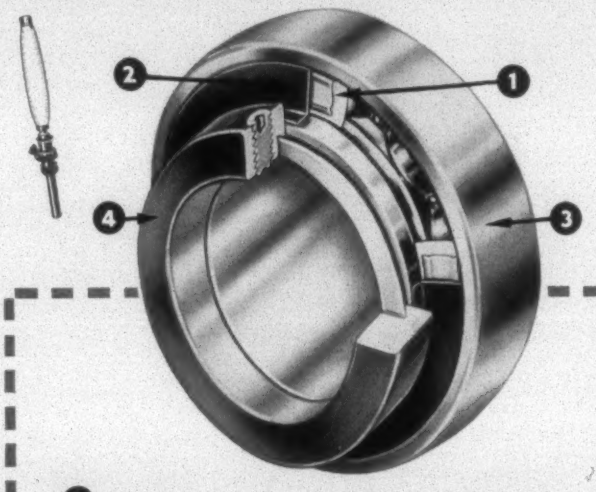

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PERSONAL NEWS

Dr. Edward Abrams

Dr. Edward Abrams, for the past six years head of the textile section at Southern Research Institute, Birmingham, Ala., has joined the staff of the newly-formed chemical preservative department of National Cylinder Gas Co., Chicago, Ill. In his new post he will head up the research and other scientific aspects of the activities of the new department. Before joining the Southern Research Institute, Dr. Abrams was head of the biology division of the Institute of Textile Technology at Charlottesville, Va. During World War II he was in charge of the microbiology and microscopy laboratories at the National Bureau of Standards in Washington, D. C.

W. J. Miller, director of purchasing, and Steve V. Makuta, manager of the industrial engineering and industrial relations department, Duplan Corp., have resigned from the company. Mr. Miller had been with the firm 31 years. Mr. Makuta was with the firm about four years before joining Stonecutter Mills Corp., Spindale, N. C., as standards director for 3½ years. He returned to Duplan about two years ago. Both were transferred from Charlotte, N. C., to Winston-Salem, N. C., when Duplan consolidated its manufacturing headquarters at Charlotte and its sales headquarters in Winston-Salem.

Arthur B. Borden, first vice-president and treasurer of Borden Mills Inc., Kingsport, Tenn., has been elected president of the firm. He succeeds John C. Borden, who has been named board chairman. William J. Still was named executive vice-president and William H. Borden vice-president and treasurer. Arthur Borden had been first vice-president and treasurer since 1950. Mr. Still had been vice-president and general manager since 1939. William H. Borden joined the company in 1952 as assistant vice-president and assistant treasurer.

Richard B. Stevens has been named acting district manager in Greensboro, N. C., for Steel Heddle Mfg. Co., Philadelphia, Pa. Formerly a salesman in that territory, Mr. Stevens replaces Ralph L. Parker, who has resigned. Everett Lail, previously in the company's Greenville, S. C., office, has been named salesman in Greensboro, and Hugh I. Cash has been transferred to Greenville from Greensboro. G. David McGill has been appointed to the new position of Southern products manager after being with the Southern Shuttles office.

William A. Edwards Jr. has been named manager of the Catherine Plant, Avondale Mills, Sylacauga, Ala. The Catherine and Central Plants were formerly under the supervision of James A. Pasley. Complete separation of the two plants was made recently by the construction of a new opening room for the Central Plant. Mr. Pasley continues as superintendent of that plant. Mr. Edwards was formerly assistant to W. A. Turner, Avondale vice-president and general superintendent.

H. Gordon Smith

H. Gordon Smith is retiring as executive vice-president of the U. S. Rubber Co., effective Aug. 31. Mr. Smith, who will continue as a member of the firm's board of directors, has been with the company 39 years. He served many years in the company's tire division, and was named general manager of the textile division when it was formed. He was elected a vice-president in 1945, and a director, a member of the executive committee and executive vice-president in 1951. . . . John W. McGovern, a vice-president and a member of the executive committee, has been named to succeed Mr. Smith as executive vice-president.

Clarence E. Elsas has been named executive vice-president of Fulton Bag & Cotton Mills, Atlanta, Ga. The company has consolidated its former mills division and textile division into a single division to be known as the textile division. Mr. Elsas will head this division. . . . Fred G. Barnet, formerly manager of the bag division at St. Louis, Mo., has been named vice-president and general manager of the textile division, and J. F. Freene has been named general manager of textile manufacturing.

Bibb Mfg. Co., Macon, Ga., has announced the following transfers: E. J. Hertwig, superintendent of weaving at Columbus, has been named superintendent of Osprey Mill at Porterdale, Ga. . . . Russell Sewell, superintendent of spinning at Columbus, has been named superintendent of weaving at Columbus. . . . Murray Gardner, superintendent of the Osprey Mill, has been transferred to Macon as superintendent of the Payne Mill. . . . W. Grady Morgan, Payne superintendent, has been named superintendent of spinning at Columbus. According to L. R. Brumby, vice-president in charge of manufacturing for the company, the changes were made in order to give wider training in the various phases of production to members of the supervisory staff.

R. L. McCommon, president of Atlantic Cotton Mills, Macon, Ga., has been appointed by the Georgia Forestry Commission to the Bibb County Forestry Board for five years.

Rene Bouvet, head of the textile development division of the textile research department at American Viscose Corp., Marcus Hook, Pa., has been named an assistant director of that department. He succeeds Harrison D. House, who has retired. Mr. Bouvet, a native of Lyon, France, has been with American Viscose since 1939. . . . George G. Wells Jr., sales development representative at the corporation's Roanoke, Va., rayon plant, has been transferred to department headquarters at Marcus Hook. Mr. Wells, a native of Greenville, S. C., and a graduate of Clemson College, has been with the company since 1939. . . . George A. Glarner, a member of the textile research weaving division, has been named to succeed Mr. Wells at Roanoke. Mr. Glarner joined the company in 1946. He is a native of Moscow, Pa.

Paul V. Brown has been appointed manager of the industrial rolls division of Sam'l Bingham's Son Mfg. Co., Chicago, Ill. Mr. Brown, formerly with B. F. Goodrich, will direct the development and sales of industrial rolls to the textile and other industries.

John K. Cochran has been appointed manager of production for the fiber glass division of Pittsburgh Plate Glass Co. Mr. Cochran was formerly vice-president and general manager of the Duplan Corp. in New York.

Howard B. Jackson, former executive of Neisler Mills Inc. and the Neisler Division of Massachusetts Mohair Plush Co., Kings Mountain, N. C., has accepted a position with J. P. Stevens & Co.

George Asnip, general manager of the worsted group, Deering, Milliken & Co., has been named treasurer of Abbeville (S. C.) Mills Corp. to succeed Robert C. Edwards, who resigned as treasurer and general manager to join Clemson College as

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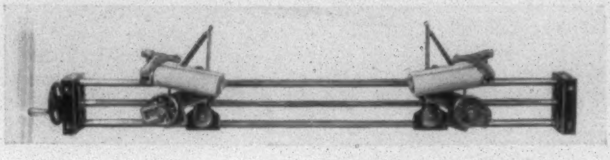

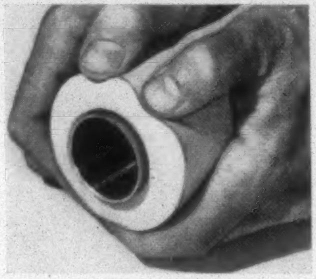

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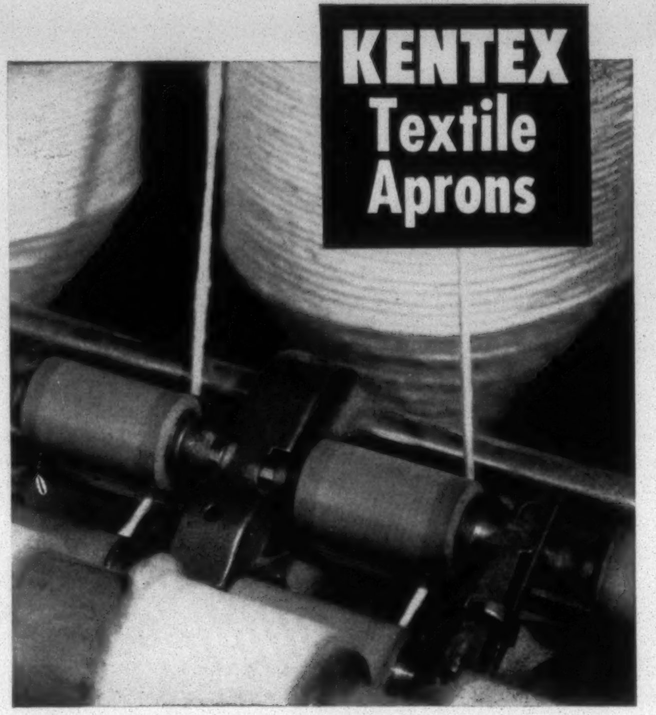

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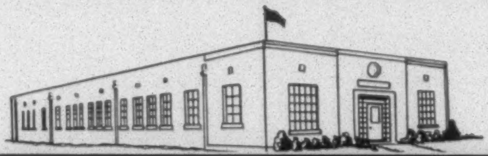

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vice-president in charge of development, a new post. . . . L. J. Fisher Jr., manager of Gerrish Milliken Mills, Pendleton, S. C., has been appointed by Mr. Asnip as general manager of Abbeville Mills. . . . W. E. Thrailkill, superintendent of Kingsley Mill Corp., Thomson, Ga., succeeds Mr. Fisher at Gerrish Milliken Mills at Pendleton. . . . Will S. Manning, superintendent of Gayley Mill Corp., Marietta, S. C., succeeds Mr. Thrailkill at Thomson, and Raymond C. Owings, technical superintendent at Drayton Mills, Spartanburg, S. C., succeeds Mr. Manning at Marietta. . . . T. C. Jolly, superintendent of Drayton Mills, has been named manager of that plant. He has been with Drayton since 1946. . . . W. R. Owens has been promoted to technical superintendent of The McCormick (S. C.) Spinning Mill Inc. Jim Neal Workman has been promoted from assistant overseer of spinning to overseer of spinning to succeed Mr. Owens, and W. T. Ivey has been promoted from machinery maintenance inspector to succeed Mr. Workman.

J. R. Meikle

J. R. Meikle, vice-president and general superintendent of Rosemary Mfg. Co., Roanoke Rapids, N. C., a subsidiary of J. P. Stevens & Co., has been named vice-president and general manager of the company to succeed Gordon A. Berkstresser, who has resigned. Mr. Meikle has been with the firm since 1935. Mr. Berkstresser, named "North Carolina's Textile Man of the Year" in 1954 by Phi Psi fraternity at the School of Textiles, North Carolina State College, had been with Rosemary since 1938. Prior to that he had been with the selling organization of the Simmons Co., which sold its Roanoke Rapids interests to Stevens in January. . . . Other promotions at the plant include that of J. Edward Shaw to general superintendent and Virgil E. McDowell to assistant plant superintendent.

Joe Finley has been appointed sales representative in North Carolina and Virginia for Chemical Processing Co., Charlotte, N. C. Mr. Finley was formerly with Fulton Bag & Cotton Mills Co. and Pacific Mills.

Otto F. Long, assistant district nylon sales manager in the Charlotte, N. C., office of the Du Pont Co., retired at the end of July after more than 40 years with the company. He was assigned to the Charlotte office in 1928, and was named sales manager for rayon in 1933. Beginning in 1943, he devoted his efforts exclusively to the sale of rayon staple as district representative in charge of that product. He had been assistant to the nylon district sales manager since 1955.

The Atlanta, Ga., division of the C.I.T. Corp. has announced the appointment of field representatives to handle the industrial financing firm's operations in Alabama, Georgia and South Carolina. John F. Kane of Birmingham will represent the firm in Alabama. He is a graduate of St. Joseph's College in Philadelphia, Pa. Georgia operations will be handled by Jim L. Gisi of Atlanta. Harry L. Gay of Columbia will handle accounts in South Carolina.

Robert L. Duckett has joined the testing equipment department of the Uster Corp., Charlotte, N. C., as service engineer for Georgia, Alabama, Mississippi and western Tennessee. Mr. Duckett, who was formerly associated with Pacolet Mfg. Co., New Holland, Ga., will make his headquarters in Atlanta, Ga.

Bynum Carter, vice-president of A. B. Carter Inc., Gastonia, N. C., has been appointed chairman of the Red Cross blood program for Gaston County. His appointment is for one year.

Douglas T. Hall, formerly with Pacific Mills, has joined Minnesota Mining & Mfg. Co., St. Paul, Minn., as manager of marketing and application of fluorochemical products in the textile industry, a newly-created position.

H. K. Hallett

The Kendall Co., Boston, Mass., has announced organization changes which are scheduled to take place at the end of 1956 when H. K. Hallett, vice-president and director, retires as divisional manager of the company's cotton mills division. Mr. Hallett, who will continue to serve on the Kendall board of directors after his retirement from operating responsibilities, has been associated with Kendall since 1917 when he joined the organization to be manager of its Wateree Mill at Camden, S. C. Since that date, he has been, successively, manager of the Thrift Mill at Paw Creek, N. C., and divisional manager of the cotton mills division. He served The American Cotton Manufacturers Institute as its president from April 1953 to April 1954. He has been active with the textile manufacturers associations of North and South Carolina, having served as president of the North Carolina association from October 1952 to October 1953. . . . With Mr. Hallett's retirement, L. A. Savage will become the divisional manager of the cotton mills division which has its headquarters at Charlotte, N. C. Mr. Savage is a graduate of Lowell Technological Institute and joined Kendall in 1928 at its Mollohon Plant in Newberry, S. C. After a training period, Mr. Savage was made overseer of carding at Mollohon and was later moved to the company's plant in Colrain, Mass. He returned South in 1937 and has served as assistant manager of Pelzer (S. C.) Plants, assistant works manager, and manager of Pelzer Plants. He was transferred to Charlotte as works manager of the cotton mill operations of the company, which position he has held since 1943. Mr. Savage is a native of Camden, S. C. . . . Jack B. Baker has been named to succeed Mr. Savage as divisional works manager. Mr. Baker will be transferred from the position of manager of Pelzer Plants, which position he has held since 1947. Prior to that date, Mr. Baker had served as assistant to the works manager, superintendent of the Pelzer Upper Plant, mechanical superintendent at Pelzer, and plant engineer at the Walpole Finishing Plant in Massachusetts. Mr. Baker joined Kendall in 1934. He is originally from Kansas, graduated from Georgia Institute of Technology in electrical engineering and holds an engineering degree from Harvard. . . . W. Herman Taylor, who has been assistant to the works manager in Charlotte, will transfer to Pelzer to assume the responsibilities as manager of the Pelzer Plants. Mr. Taylor joined the company in 1944 and has held the positions of superintendent of the Pelzer Upper Plant, manager of the Thrift Mill in Paw Creek, and general superintendent of the Pelzer Plants. He is a native of Laurens, S. C., and a graduate of the textile school of Clemson College. . . . Another recent personnel change made by the company has been the appointment of J. D. Pool as personnel director of the cotton mills division. Mr. Pool replaces Leslie E. Schildein, who has been transferred to Boston to succeed to the position of director of personnel for The Kendall Co. Mr. Pool has been with Kendall since 1946 and has served as assistant to the works manager and as head of the industrial engineering department. Prior to joining The Kendall Co., he was with Radio Corp. of America in Camden, N. J.

Earl F. Harris

Earl F. Harris has been elected president of the Rodney Hunt Machine Co., Orange, Mass. Joining Rodney Hunt in 1946, following military service in China, Mr. Harris became vice-president of the company in 1947 and executive vice-president in 1952. He attended Dartmouth College, Worcester Polytechnical Institute, Babson Institute and Lowell Technological Institute, and is a member of the American Management Association, the Boston Chamber of Commerce and the Engineers Club of Boston. Carl C. Harris, president of the company since 1938, will continue to serve the firm as chairman of the board.

Elmer K. Stilbert has been promoted to staff manager of coating materials for the plastics department of The Dow Chemical Co. Former assistant manager of coatings technical service, he will be responsible for long-range planning for coating materials. Mr. Stilbert joined Dow in 1940 as a research chemist. For many years he has worked on the development and use of coatings in the textile and other fields.

Henning W. Prentis Jr., chairman of the board, Armstrong Cork Co., Lancaster, Pa., has been selected to receive the 1956 Henry Laurence Gantt Gold Medal for "distinguished achievement in industrial management as a service to the community." The medal is given jointly each year by the American Management Association and the American Society of Mechanical Engineers. In announcing the selection, the A.M.A.

automatic plant for storing and mixing glass raw materials, and all types of Fiberglas textile processing and fabricating equipment. The project is expected to be completed by the middle of 1957.

GREENSBORO, N. C.—The Greensboro finishing plant of Burlington Industries is in the process of being converted to a commission finishing operation to be known as Greensboro Finishing Co. F. C. Wedler, manager of the finishing division, said that work formerly done there for Burlington will be gradually transferred to other company plants. While this production is being transferred, the new firm will take progressively larger numbers of orders from private firms. No changes in personnel or management at the finishing plant are planned.

COLUMBUS, GA.—Swift Spinning Mills Inc. is building a $600,000 addition to its plant here. The project will add some 15,000 square feet to the plant's carding and spinning rooms, creating additional employment for some 40 to 50 persons. Construction is expected to be completed about the first of the year.

COLUMBUS, GA.—Fire last month damaged a reported "millions of yards" of finished cotton goods in a six-story warehouse at the Eagle & Phenix Division of Fairforest Co. here. J. A. Byars, general superintendent, said damage was caused chiefly by smoke and water. Cause of the fire was laid to spontaneous combustion.

KINGS MOUNTAIN, N. C.—Slater Bros. Inc., manufacturer of rayon pile fabrics, has announced that construction is being completed on a $35,000 addition to its plant here. The new space will initially be used as a preparation room, but future plans call for its use as a weaving room, housing 54 modern plush looms. Slater Bros., with headquarters in Paterson, N. J., began operations in Kings Mountain in 1950. Since that time the original plant has been expanded twice, and now has some 35,280 square feet of floor space. The firm expects to install eight automatic double plush looms in September, making a total of 72 looms in all. Some 100 persons are employed at the plant.

GASTONIA, N. C.—R. S. Dickson, chairman of the board of American & Efird Mills, Mount Holly, N. C., has made known that the company's Dixon Plant, here, will either be sold or converted to an all-cotton plant after its present stock is run out. Mr. Dickson pointed out that the Dixon Plant had been a losing proposition for the past 18 months, and said he has hopes that the plant can be made into a first class cotton mill by revamping the machinery and setting up a cotton spinning operation on medium counts.

WILMINGTON, N. C.—Timme Corp., producer of plushes and pile fabrics here, has announced plans for an $800,000 expansion project. The project will include construction of a 52,000-square-foot addition to the present plant at a cost of $200,000. Fixtures and new equipment to be installed will cost an additional $500,000 to $600,000, it is said. The expansion will enable the firm to increase production an estimated 30 per cent, principally in pile fabrics.

SELMA, N. C.—Selma Mills Inc., producer of diaper cloth, has closed indefinitely. The mill employed 230 persons at full production, and has been in operation since January 1953.

GREENSBORO, N. C.—Burlington Industries has purchased the combing machinery of Talbot Wool Combing Co., Norton, Mass. Talbot is a subsidiary of Francis Willey & Co. which is being liquidated. According to reports, Burlington will transfer the machinery to one of its Southern mills. A spokesman for Burlington, commenting on the transaction, said the purchases were small and not in a significant amount.

LAURENS, S. C.—Woonsocket Worsted Co., producer of worsted weaving and knitting yarns, has changed its name to Woonsocket-Laurens Inc.

ROLLING FORK, MISS.—The Columbia Narrow Fabric Co. of Shannock, R. I., has begun construction on a new plant here which will employ about 100 persons in the manufacture of high quality elastic and other products. The plant is being built under Mississippi's "Balance Agriculture With Industry" program.

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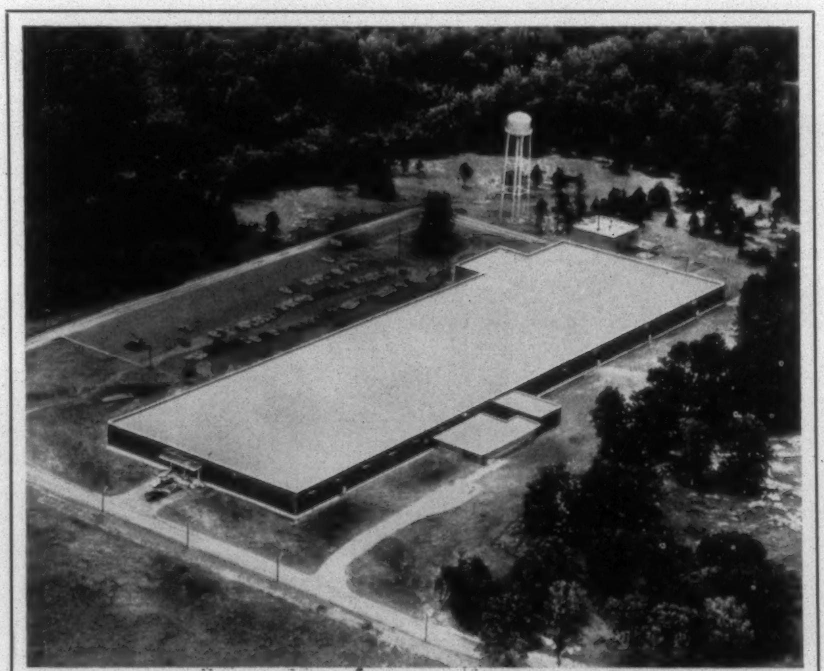

WHAT IS DESCRIBED AS THE SOUTH'S LARGEST FELT MILL is now in operation at Aliceville, Ala., producing felts and compressive shrinkage blankets for the paper and textile industries for F. C. Huyck & Sons.

The new mill, over twice as large as any Southern felt mill now existing, provides 200,000 square feet of usable space for its up-to-date machinery. Among its many features is a special acoustical ceiling, designed not only to minimize noise but to provide a smooth surface so that no lint or dust can lodge overhead. The building is completely climate controlled, which goes far beyond simply conditioning the air. Each area is individually and automatically controlled to just the right atmospheric conditions of temperature and humidity for optimum efficient operation of its processes. The floor has a special finish, almost glass hard, so that no dust will arise from the movement of people and trucks.

The company has its headquarters in Rensselaer, N. Y., and operates other mills in Peterborough, N. H., Cavendish, Vt., and Arnprior, Ont.

S.T.A. Plans Fall Divisional Meetings

At a regular meeting of its board of governors held Aug. 4 at Charlotte, the Southern Textile Association made plans for a series of four divisional meetings this Fall.

The first meeting, that of the Eastern Carolina Division, will be held Saturday, Oct. 13 at North Carolina State College School of Textiles, Raleigh. W. A. Rhinehardt of Golden Belt Mfg. Co., Durham, N. C., is the chairman.

Plans for the Piedmont Division meeting, tentatively scheduled for the North Carolina Vocational Textile School at Belmont Oct. 27, are being completed by Chairman C. S. Willard, of Pacific Mills, Rhodhiss, N. C.

On Nov. 3 the South Carolina Division will meet at Clemson House, Clemson, with Chairman J. N. Jenkins, of Kendall Mills, Edgefield, S. C., in charge. Those planning to attend this meeting will be given an opportunity to purchase in advance tickets to the Clemson-V.P.I. football game to be played that afternoon.

The final Fall meeting will be that of the Northern North Carolina-Virginia Division, which probably will be held Nov. 10. Charles Ward of Highland Cotton Mills, High Point, N. C., is the chairman.

Carded Yarn Meeting Program Announced

The Carded Yarn Association, which has scheduled its 11th annual convention at Hotel Fort Sumter, Charleston, S. C., Oct. 24-26, will have H. K. Hallett as the feature speaker of the program. Mr. Hallett, who will address the general session Friday morning, Oct. 26, is retiring this year as general manager of the Kendall Cotton Mills Division of the Kendall Co. He is currently a vice-president and director of the Kendall Co., and is a past president of the North Carolina Textile Manufacturers Association and the American Cotton Manufacturers Institute.

At the annual business meeting Thursday morning, J. G. H. Morris, Adelaide Mills, Anniston, Ala., will give the president's report, followed by election of new officers and directors. This will be preceded by executive breakfast meetings of yarn spinner groups.

Thursday afternoon will be devoted to golf and recreation, with a reception by the Association of Yarn Distributors that evening. After the Friday meeting featuring Mr. Hallett, that afternoon will be given over to the annual handicap golf tournament, followed by a banquet and awarding of golf prizes.

Textile Group Drops Out Of A.S.Q.C.

The Carolinas Section of the American Society for Quality Control has withdrawn after three years from the A.S.Q.C. parent organization and has resumed its independent status as the Textile Quality Control Association.

Ashley Roberts of China Grove (N. C.) Cotton Mills Co., association president, said the membership voted 79 per cent in favor of resuming independent operations with the original objectives, constitution and by-laws.

It was felt more beneficial to the membership if the association devoted its full efforts to the textile industry. About 75 members will be transferred from the A.S.Q.C. section to T.Q.C.A.

The executive committee of T.Q.C.A. tentatively has

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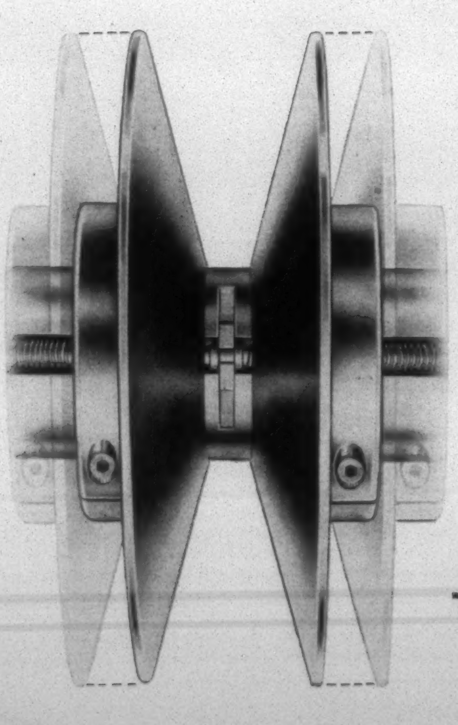
for the right speed setting



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announced the scheduling of a Fall meeting at Sedgefield Inn, Greensboro, Sept. 27 and 28.

In addition to Mr. Roberts, T.Q.C.A. officers are Kelly Waits, Joanna (S. C.) Cotton Mills Co., vice-president; Emmett Bringle, National Cotton Council, Washington, secretary; and Elvin Bond, U. S. Rubber Co., Winnsboro, S. C., treasurer. The board of governors includes Dent Mangum, School of Textiles, North Carolina State College, Raleigh; John Elting and Ray Gordon, Kendall Cotton Mills, Paw Creek, N. C.; and Dick Tanner, Fieldcrest Mills Inc., Spray, N. C.

Georgia Operating Executives Fall Program

Members of the Textile Operating Executives of Georgia were polled this month for their answers to questions which will be discussed in detail at the T.O.E.G. meeting Saturday, Oct. 13. Eight questions on maintenance, nine on slashing and nine on weaving are included in the list sent to the membership.

The October meeting will begin at 9 a.m., and will be held in the Hightower Textile Building, Georgia Institute of Technology, Atlanta.

Truckers Dump 'Light' Textiles Plan

A proposal before the Southern motor carriers rate conference that would establish weight density and other premium provisions on so-called "light" textile goods has been abandoned by the motor carriers. At a meeting of the conference's general rate committee in Atlanta, Ga., the proposal was reported as "failed of adoption."

The plan had been vigorously opposed by the traffic advisory group of the Georgia-Alabama Textile Traffic Association, other textile traffic groups and mill representatives. Paul P. Watkins, attorney and traffic manager of the Georgia-Alabama Textile Traffic Association, had led the fight against the proposal.

Had the motor carriers proceeded with this action and been permitted by the Interstate Commerce Commission to make their proposal effective, it would have had a disastrous effect on the textile industry, Mr. Watkins declared

Expansion Planned In Wool Research

The wool industry will sharply increase its research program in the United States, The Wool Bureau has announced. Studies on the basic properties of the wool fiber and their influence on mill processing efficiency and fabric performance will be broadened as part of a new two-year program at the Textile Research Institute in Princeton, N. J., the bureau said.

At the same time, a new research program on the performance properties of lightweight wool fabrics will be launched at the Fabrics Research Laboratories Inc., in Dedham, Mass., it was reported. Details of the project will be

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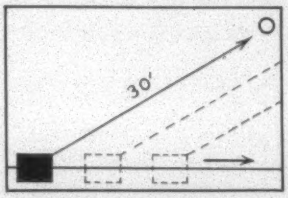

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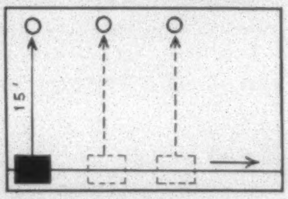

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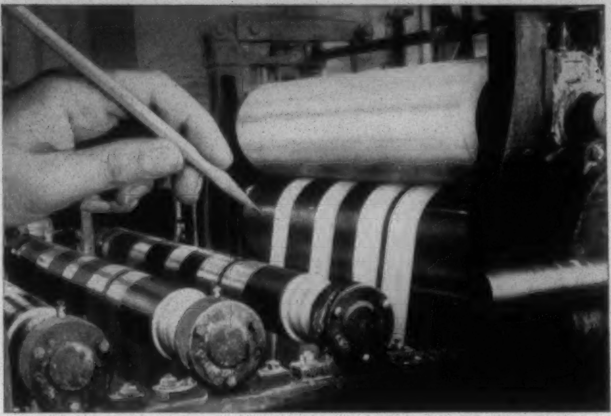

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released within a few weeks, according to Max F. Schmitt, Wool Bureau president.

The expansion of wool research programs in the United States reflects the world-wide wool-growing industry's increasing emphasis on wool fiber research. At a meeting in London last month, wool leaders who comprise the Executive of the International Wool Publicity and Research Fund voted to double world-wide research expenditures financed by growers of the British Dominions.

The newly-expanded Textile Research Institute program follows two four-year research projects launched in 1948. The second of these projects ends in October 1956.

In announcing the new program, Mr. Schmitt emphasized the need for wider support of wool research efforts by the nation's wool textile mills and other firms processing wool.

"Scientific research has traditionally played an important part in improving the methods of the wool growing and wool textile industries," Mr. Schmitt declared. "Continued support of research programs is needed if these industries are to meet the nation's growing textile needs. With all its recognized qualities and versatility, the wool fiber deserves still greater attention in the laboratory in order to maintain its important rôle in an increasingly complex civilization."

Mr. Schmitt pointed out that the two-year project to be supported through The Wool Bureau is aimed at quantitative methods of selecting wools for efficient processing and to achieve optimum end-product quality. This program, while tailored specifically to the interests of the wool grower, will complement and enhance another program dealing with the chemical behavior of wool which will be undertaken at T.R.I. with support from wool manufacturers. Details of this program were outlined recently to more than 50 representatives of leading wool mills at a special meeting of the institute's Wool Research Advisory Committee in Princeton. "This project," Mr. Schmitt stated, "will yield important information on the effects of chemical treatments in wool processing."

"In view of the current emphasis being placed by mills on the use of chemical treatments to impart special performance characteristics to the wool fiber, this project is of particular significance to all processors of wool and worthy of their backing," Mr. Schmitt concluded.

Now Its Dow With 'Zefran' Fiber

Plans for commercial production of a new synthetic textile fiber were announced this month by the Dow Chemical Co. The staple fiber, developed by Dow research men, will be marketed under the trade name of "Zefran" (rhymes with "Jeff Ran").

Dow directors have approved immediate construction of a plant to make Zefran near Lee Hall, Va., on the James River.

Dr. Leland I. Doan, Dow president, said Zefran combines in one fiber a wide range of the better properties of other fibers—both man-made and natural. "For example," he said, "it combines the ease of care properties of synthetic fibers with the exceptionally versatile dyeing characteristics of cellulosic fibers such as cotton or rayon. Added to these characteristics are good initial whiteness, good bleachability, wear resistance and resistance to rot and chemicals, freedom from serious pilling tendencies, and excellent dimensional stability when exposed to elevated temperatures."

This combination of properties suggests that Zefran will be of interest to manufacturers of most classes of textile goods including work clothes, play clothes, suitings and other apparel fabrics, draperies, upholstery fabrics and heavy industrial fabrics.

"We are confident that Zefran will find a ready market, particularly in the apparel and household fabric fields," Dr. Doan said. "We think we have something new and useful to contribute. However, we are moving on a relatively conservative scale, at least at first, into what is for us a very new field."

More than five years of research, evaluation and pilot plant operations at Dow's Pittsburg, Cal., plant and Midland, Mich., headquarters preceded the announcement.

Dr. Doan said Zefran will be available in forms (staple length, denier, crimp, etc.) suitable for economical and efficient processing by the common textile processing systems and for blending with other fibers. Completion of the Virginia Zefran plant, on a 600-acre site, is expected in about 18 months. Meanwhile, several textile mills are using the pilot plant production of Zefran on a developmental basis.

Scholarship Activity At Clemson

Coy Gray, graduate student in textile chemistry from Anderson, S. C., has received a continuation of a $1,500 Dow-Corning Fellowship for study at Clemson College through January. The fellowship, awarded last September by the Dow-Corning Corp., Midland, Mich., includes tuition and a research supply fund applicable to thesis work.

Mr. Gray, a 1952 Clemson graduate in textile chemistry, will complete his M. S. requirements in January. He is working in the field of silicones, of which Dow-Corning is a leading manufacturer, as part of his graduate program. His Fall semester work will include research suggested by Dr. S. L. Bass, Dow-Corning vice-president.

The Seydel-Woolley Award, a partial-tuition scholarship in textiles, has been announced by Clemson. The award, presented to the college by Vasser Woolley, president of Seydel-Woolley and Co., Atlanta, Ga., will be made each year to an outstanding senior or junior in textile engineering or textile chemistry. The first recipient will be selected by the college scholarship committee during the Fall semester.

Wardrobes Contributed To U. S. Olympic Team

A $120,000 contribution of fabrics and tailored apparel by the nation's textile and clothing industries will provide complete wardrobes for the 525 men and women who will represent the United States at the XVI Olympiad in Australia during November and December.

The wardrobes, first ever presented to U. S. Olympic athletes through large-scale industry co-operation, will include all-wool parade uniforms, wool travel uniforms, wool leisure wear and sleepwear. Approximately 26 items of apparel in all will be issued before departure from the West Coast to each of the 450 men and 75 women partici-

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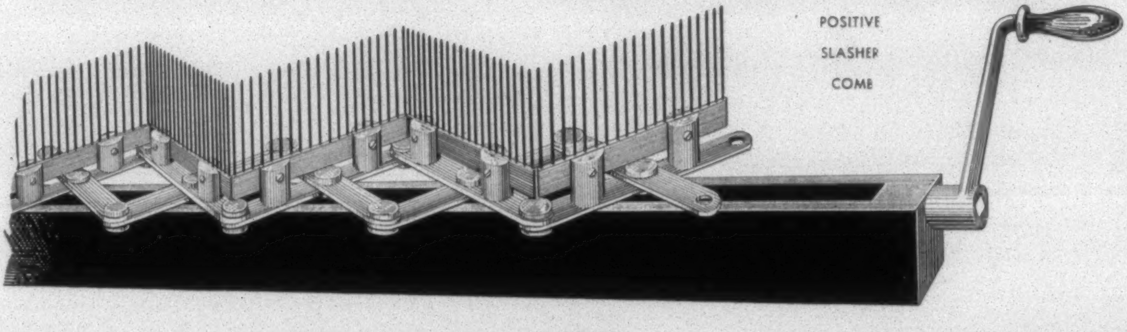

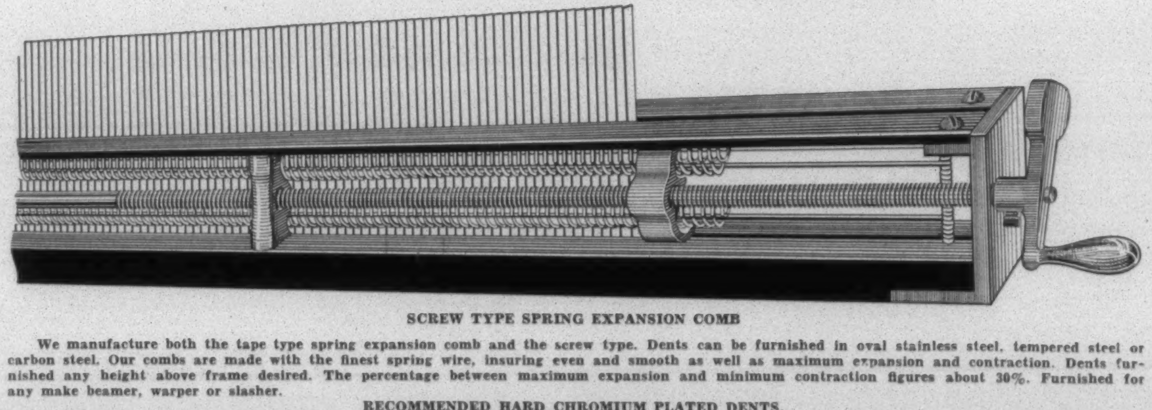

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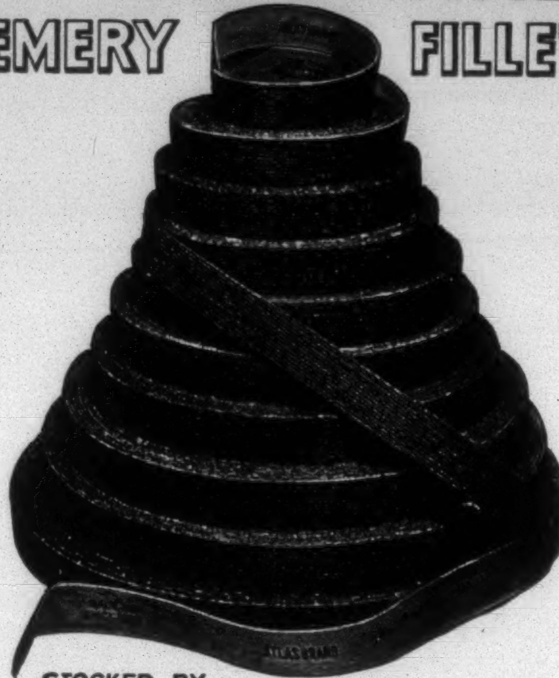

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pating in the games. Almost 7,000 yards of lightweight all-wool fabric have been contributed by ten of the nation's top-ranking mills as the basis for the wardrobes. Thirty-six leading manufacturers produced and donated the finished apparel. Predominant colors in the wardrobes of both men and women are navy blue and eggshell white, with red appearing as trim and decoration in some items of apparel.

The men's parade uniform includes an eggshell jacket in waffle weave all-wool worsted styled with blazer cut and trimmed with navy blue piping and gold Olympic emblem buttons. It will be worn with navy blue tropical worsted slacks, an eggshell domestic wool felt beret, light blue cotton dress shirt, striped red tie, black leather dress shoes, navy wool socks and elastic belt with Olympic emblem buckle. A navy blue short zipper jacket in worsted gabardine with matching cap will be worn with medium gray worsted flannel slacks by the men for travel. White cotton broadcloth sport shirt, black leather mocassin style shoes and navy blue wool ties and socks complete the outfit.

For spectator sports and other leisure activities the following items have been designed for the men: medium gray Ivy style wool flannel walk shorts, short-sleeved white cotton shirt, white knit pullover shirt, white V-neck sleeveless wool sweater and gray wool knee socks. Other items include folding raincoat, blue seersucker pajamas, knitted underwear and navy blue tailored wool flannel robe.

The women's parade suit has a fitted jacket in eggshell waffle weave worsted trimmed with gold Olympic emblem buttons and a slimline navy blue skirt in all-wool tropical worsted. The suit will be worn with a wool felt beret, ice blue pima cotton blouse, red Scotch-grain leather shoes and matching handbag and eggshell cotton gloves. An all-weather coat in eggshell worsted wool jersey has emblem buttons and kangaroo pockets. It can be worn with the parade uniform or for travel. The women's travel suit has a box jacket in navy and white wool tweed and a slim, navy blue wool flannel skirt and a matching tweed hat. Travel costume includes a full-fashioned navy blue wool sweater, navy blue leather shoes and white cotton gloves.

Leisure wear for women team members include slim, tapered gray wool flannel bermuda shorts and matching sweater-jacket, white cotton broadcloth blouse, white wool cardigan jacket with emblem buttons, red, white and blue silk scarf, elastic emblem belt and gray wool knee socks. Other items include a navy blue wool flannel tailored robe, blue seersucker pajamas, lingerie and hosiery.

Uniforms for both men and women were styled and selected by The Wool Bureau, which is the official co-ordinator of Olympic apparel. The bureau worked in close co-operation with the Olympic Supplies and Equipment Committee. Fabrics were contributed by J. P. Stevens & Co.; Pacific Mills; Dan River Mills and others. Women's apparel was contributed by Pendleton Woolen Mills; Irwill Knitwear Corp.; Julius Kayser & Co. and others. Among firms contributing men's apparel and accessories were P. H. Hanes Knitting Co.; Berkshire Knitting Mills; and Esquire Socks.

Micronaire Gets Cotton Exchange Seats

New precision instruments specially designed to measure and classify cotton fiber fineness will be almost universally applied to test this year's estimated 12,500,000-bale U. S. cotton crop.

Under new rulings designed to encourage cotton quality improvement by standardizing fiber measurement procedures, both the New York and New Orleans Cotton Exchanges have amended their cotton futures tendering regulations to require that cotton offered to both of these major markets shall meet fineness specifications as measured by the Micronaire air gaging device developed by the Sheffield Corp., Dayton, Ohio.

Cotton fineness, one of the most important elements affecting cotton textile production and quality, was measured largely by the experts' "hand and eye" method prior to Sheffield's introduction of the Micronaire. The new instrument, first introduced in U. S. Department of Agriculture cotton fiber laboratories, is now generally used in nearly 200 federal, state, industrial and commercial test laboratories. It provides a faster, more economical way to measure and evaluate fiber fineness properties in five major classifications, ranging from extra fine to extra coarse.

The Micronaire has put fiber testing on a scientific assembly line basis in all leading U. S. cotton growing, shipping and textile centers. A single instrument operated by a team of one operator and one sample weigher can grade as many as 1,500 bales of cotton per day, or from six to eight bales per minute. The operator merely places a compressed, weighed sample of cotton into a cylinder, then presses a button to force a jet of air through the sample. The instrument does the fineness measuring job by automatically recording fiber fineness as registered by the sample's resistance to the passage of air.

To constantly improve quality and broaden the applications and use of U. S. cotton, most of the country's cotton mills are now specifying fiber properties measured by the Micronaire instrument in their requirements from shippers. Mills are constantly adding new precision specifications in manufacturing that demand the most exact measurement of fiber fineness, to assure uniform quality.

Instrument measurement of fineness not only strongly influences the textile industry's ability to control and improve quality, but also helps lower operating costs, according to mill experts. The fast, more accurate control of fineness now available permits mills to operate machinery more continuously by reducing the amount of down-time needed for changing settings to conform with undue variations in quality of cotton yarn. By quickly grading baled cotton into various fineness classifications as soon as it is received from the growers, a mill can plan machine settings with far more efficiency than previously possible, experts point out.

New Wrinkle-Resistant Treatment For Linen

A group of British scientists working for Tootal Broadhurst Lee Co. Ltd., Manchester, England, have reported the discovery of a new and better method of treating linen to make it wrinkle-resistant. Tootal will apply the new process to linen now being produced in its English plant, and the first bolts of treated cloth will go on sale in

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American stores this Fall, in time for resort wear. It will be made available in Britain or Europe next Spring.

Because the greater part of the world's production of linen is concentrated in Northern Ireland, and the new invention could be of prime importance there, Tootal is making the process available to manufacturers and processors under license. One of the oldest known fabrics, for centuries regarded as a luxury cloth, linen has recently proved something of a headache to manufacturers because it wrinkles so easily and is difficult to iron.

The new Tootal development is the result of six years' research. It is reported to make the cloth virtually wrinkleproof, and at the same time almost to lift it into the class of man-made fibers from the point of view of ironing. Hung to dry after washing, virtually no pressing is needed, it is reported.

Wool Forces Plan Big Promotion Push

The ensuing 12 months will see the largest and most thoroughly integrated program of promotion, advertising and research in behalf of wool in history, Max F. Schmitt, president of the Wool Bureau, recently told leaders of the U. S. wool growing industry. Speaking at the annual mid-Summer meeting of the council of directors of the American Wool Council at Helena, Mont., Mr. Schmitt reported that "more segments of the wool industry than ever before are supporting the many-faceted wool program."

The stepped-up advertising and promotion campaign will reach millions of additional Americans during coming months, the Wool Bureau president declared. Particular emphasis will be placed on promoting apparel for the vast and rapidly growing youth market, he said, where promotion efforts will stress durability, smart styling and health protection in all-wool fabrics.

Events of recent months have brightened the long-range outlook for wool, Mr. Schmitt reported. There is every indication from industry reports, he stated, that total U. S. apparel wool use in 1956 is recording a measurable gain over consumption in 1955. Total consumption of the fiber last year was seven per cent over 1954, he added.

Improving Cotton 'Wash & Wear' Finishes

Significant improvements in "wash and wear" finishes for cotton may be achieved by the use of Rhoplex thermoplastic resin dispersions in conventional thermosetting resin formulations, according to H. C. Borghetty, in charge of technical service and new product development in the textile chemicals department of Rohm & Haas Co., Philadelphia, Pa. Use of the Rhoplex resin along with a thermosetting resin such as Rhonite R-1 makes it possible for the finishes to improve crease resistance with the same fabric strength, or to achieve the same degree of crease resistance with improved fabric strength.

"More and more leading mills are turning to Rhonite R-1 resin treatment," Mr. Borghetty points out, "to produce cotton fabrics that need only 'touch-up' ironing after washing. Profiting by extensive work in our textile application laboratories, these mills find that they can improve 'wash and wear' finishes still further by adding a Rhoplex dispersion to the formulation. Rhoplex is the name of our family of aqueous dispersions of acrylic resins. The addition of any acrylic resin to the formulation makes it possible to improve the crease resistance of a fabric while maintaining the same fabric strength. If it is desired to improve strength, the addition of Rhoplex resin and a reduction in the thermosetting resin will accomplish this without impairing crease resistance."

These advantages are illustrated by the typical formulations below. Table I shows the amount of resin normally used on 80x80 cotton fabrics, against a recommended formulation that incorporates a thermoplast in place of a portion of the thermoset.

TABLE I

STANDARD FORMULA (lbs. Per 100 gals. at 75% pick-up)	SUGGESTED FORMULA (lbs. Per 100 gals. at 75% pick-up)	
Reactant (50%)*	Reactant (50%)*	Acrylic dispersion (35%)**
85	65	40

*Sold as Rhonite R-1
**Sold as Rhoplex S-1

Table II shows the improvement in crease recovery achieved by adding a soft thermoplast to a standard formulation based on a reactant resin padding solution applied to cotton 80x80 fabric at 75 per cent retention.

TABLE II

Treatment	Crease Recovery(°) Before FSW*		Tensile (1" Strip) Before FSW*		Trapezoid Tear (lbs.) Before FSW*	
	Warp	Filling	Warp	Filling	Warp	Filling
10% Reactant (50%)	111	104	22	20	1.7	1.3
10% Reactant (50%) 5% Acrylic dispersion (35%)	128	117	23	18	1.6	1.3

*Full Sanforized Wash

Engineers Dream Up "Ghost" Motor

Putting their inventiveness into reverse, engineers of Minneapolis-Honeywell Regulator Co. have developed a motor that doesn't run! They don't want it to. They merely want it to behave like a real motor in operation—which it does. The engineers designed the "ghost" to solve a costly problem in testing switches and relays. Real motors—some costing $200 each—wore out faster than the equipment being tested. The "ghost" motor can't wear out because it has no moving parts. It is an ingenious arrangement of resistors and inductors that duplicate the electrical behavior of a real motor.

Conciliators Offer Services 50 Years Late

Red-faced federal conciliators in Westboro, Mass., learned recently that they have been trying to settle two labor strikes which occurred some 50 years ago. Working on the basis of a newspaper clipping that reported that workers at two plants were demanding $7 pay for a 55-hour week, the conciliators sent work stoppage reports to both firms. Only then did they learn that the newspaper item was under a "50 years ago" heading which had been clipped off. Both firms went out of business 25 years ago.

Becco Patents New Bleach Process

Becco Chemical Division of Food Machinery and Chemical Corp. has announced that U. S. Patent No. 2,740,689 for a new type textile bleach process has been issued to Messrs. B. K. Easton and W. H. Kibbel Jr. and assigned to the company. Dated April 3, 1956, the patent describes a continuous hydrogen peroxide bleaching process employing an alkaline hydrogen peroxide solution containing a polyphosphate and a sequestering agent. Silicates, which are used in conventional bleaching, are not employed in the bleach bath composition. The new process, according to

Becco, will be useful in certain continuous hydrogen peroxide bleaching operations where the presence of silicates is objectionable.

Corporate Insurance Management Survey

Corporate insurance management is a full-time job in only half the companies included in the American Management Association's recent survey of the insurance manager's responsibilities and status. The questionnaires, distributed by the A.M.A. insurance division to registrants at the association's fall insurance conference in Chicago, Ill., were returned by 81 insurance executives. Fifty per cent of the respondents reported they were full-time insurance managers; 16 per cent said they spent half their time on insurance administration; and a third reported an average of 30 per cent of their time devoted to insurance. The survey indicated a close correlation between company size and the amount of time given to insurance administration.

More than half the respondents have the title of insurance manager or director of insurance although a few of them do not devote full time to insurance.

Ninety-three per cent of the responding companies have group insurance plans, but only 66 per cent of the insurance executives included in the survey have any responsibility for these programs. About 70 per cent of the full-time insurance managers and about 70 per cent of those who spend less than a third of their time on insurance have responsibility for group insurance. Among the half-time insurance managers, all of them in companies with group insurance programs, less than half are responsible for group insurance.

Eighty per cent of the respondent companies have pension programs. More than half the insurance executives have some pension responsibility, but only 20 per cent of these are in full charge of pension administration. The others have such functions as advising on the technical and financial aspects of the program, negotiating contracts, handling records or editing employee booklets. Forty-five per cent of the respondents have some responsibility for accident prevention, and fire prevention is at least a partial responsibility of 46 per cent of the respondents.

Premiums paid for general insurance by the responding companies average about $400,000 annually. The larger companies pay about $600,000 a year; the smaller ones, about $200,000. Group insurance costs are higher than general insurance—$800,000 on the average, for the 75 companies with group insurance plans. But pension costs are highest of all. Among the 65 companies with pension plans the average annual cost is $1.5 million. The larger firms with full-time insurance managers spend $2,150,000 a year for pensions; those whose insurance managers have less than a third-time job, $350,000. Seventy per cent of the respondents self-insure some risks, most commonly workmen's compensation. Other areas frequently self-insured, either completely or partially, are auto collision, general liability, fire and burglary.

1955 Woven Wool Production Up

Production of woven wool fabrics reached a post-Korean War peak in 1955, according to The Wool Bureau. Production of fabrics for men's and boys' wear rose 17 per cent above the 1954 level, with an output of 140 million yards in 1955 compared with 120 million yards in 1954. The

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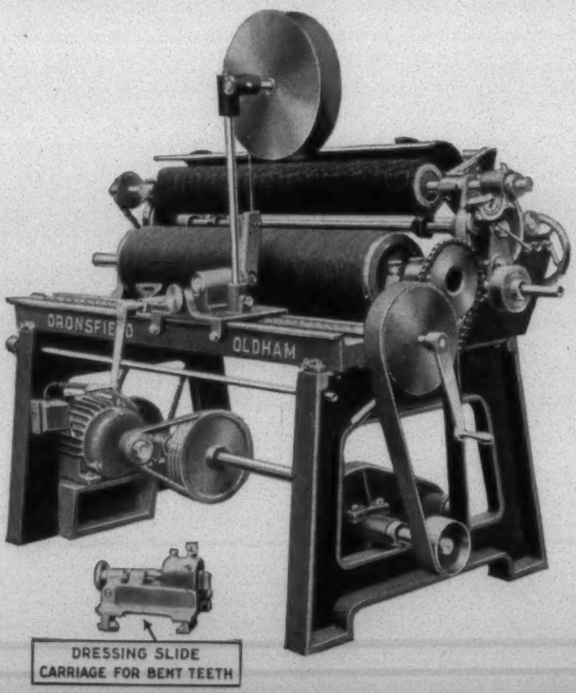

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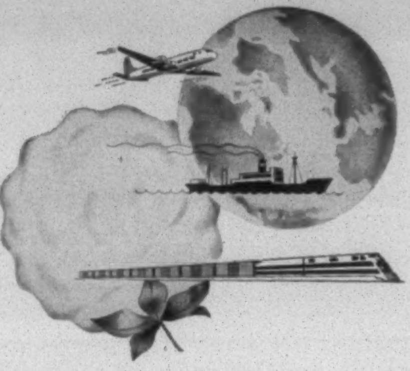

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major trends reflected in 1955 output were the growing emphasis on fabrics weighing from nine to 13 ounces to the yard and the continued gains by fabrics of woolen construction. In 1955, the nine to 13-ounce fabric range accounted for 63 per cent of total wool fabric production, compared with 61 per cent in 1954 and 38 per cent in 1948.

In the worsted category, nine to 13-ounce fabrics accounted for 68 per cent of total yardage, as against 65 per cent in 1954 and 40 per cent in 1948. Fabrics weighing less than nine ounces accounted for eight per cent of total worsted yardage in 1955, compared with seven per cent in 1954. Fabrics in the 13 to 16-ounce range dropped from 26 per cent of the total worsted market to 20 per cent, while those weighing from 16 to 20 ounces accounted for four per cent of the 1955 worsted yardage, double the 1954 percentage.

In woolens, nine to 13-ounce fabrics reached a new peak of importance, accounting for 59 per cent of total 1955 output—almost twice their share (31 per cent) of the woolen market in 1951. The gain was made at the expense of fabrics weighing from 13 to 16 ounces, and those weighing 20 ounces and over. Woolens weighing less than nine ounces and those weighing from 16 to 20 ounces made slight gains in their share of total woolen yardage. Woolens registered significant gains in relative importance to worsteds in all weight categories, but the swing to woolens was most notable in the 13 to 16-ounce class. Woolens' total share of the men's and boys' wear fabric output rose from 48 per cent in 1954 to 54 per cent last year. In 1950, woolen constructions represented only 32 per cent of these markets.

Production of woven wool fabrics for women's and children's wear in 1955—totaling 149 million yards—was 11 per cent higher than 1954 production, the bureau's report noted. The 1955 output reflected a continued gain in the importance of woolen constructions and greater emphasis on fabrics weighing from nine to 13 ounces to the yard, the bureau added.

Woolens accounted for 90 per cent of the production of women's and children's wool fabrics, compared with 88 per cent in 1954 and 71 per cent in 1950. A significant exception to the trend occurred in the production of fabrics weighing less than nine ounces. Here, worsteds increased their share of the total yardage from 16 per cent in 1954 to 21 per cent in 1955. This is still a long way from their standing from 1946 through 1948, when they accounted for more than a third of the volume in this category, the bureau pointed out.

The output of fabrics in the nine to 13-ounce category rose from 40 per cent of total production in 1954 to 45 per cent in 1955. This gain was at the expense of all other fabrics. Woolens in the nine to 13-ounce range increased their total share of woolen yardage from 36 per cent in 1954 to 43 per cent last year, as compared with a post-war low of 25 per cent in 1951 and 1952.

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Bale Wrap Tests To Be Increased

A sharp increase in tests of new bale wrapping materials for cotton is planned during the 1956 harvesting season, the National Cotton Council has announced. From 10,000 to 12,000 bales will be experimentally wrapped this year, compared with approximately 5,000 bales in 1955.

Set up four years ago, the project seeks to develop an improved bale package that would adequately protect lint against contamination and provide neater appearance.

Fewer gins will be involved this year, but each will handle a larger number of test bales than in previous years. It is expected that this change in procedure will give each gin and compress crew a chance to become more familiar with the particular material they are using. Also, it will be much easier to pinpoint the advantages or disadvantages of each material as the bales go through the various operations enroute to the spinning mill.

Tests for the 1956 harvesting season will center on two types of materials that gave best results during the past year. They are heavy and medium weight X-crepe paper and burlap laminated with polyethylene film. Small-scale tests will be run on a number of other materials including woven and non-woven cottons.

Small Mills Enjoying Good Business

Most of the medium-size to smaller textile mills in the South are enjoying a thriving business, according to Richard Volpe, assistant vice-president of Commercial Factors Corp. Mr. Volpe recently made an extensive tour of the Southern states, visiting with clients of the old-line factoring firm, and expressed the opinion that the personalized service offered by the small operator is responsible for a steadier flow of orders.

"The mills are no longer trying to compete with the big operators," said Mr. Volpe. "They are finding profits by filling in where only the more flexible mill can operate. They are able to turn out specialized fabrics, often on very small runs, and they can make quick deliveries." He added that hard selling was still a requisite, however, and expressed the belief that stiff competition among mills was the rule today.

Industrial Textiles Market Weeks Planned

Formation of the National Council of Industrial Textiles Inc. was announced last month by M. J. Lovell, its director. Organized as a service to the industry, the council is primarily designed as an annual market-place for the industrial textile industry's many products, and will also serve as a meeting place for its technicians, and a forum for the exchange of industry ideas. Headquarters for the newly-formed group will be at 112 West 34th Street in New York City.

The facilities of the New York Trade Show Building have been engaged for a week in May 1957.

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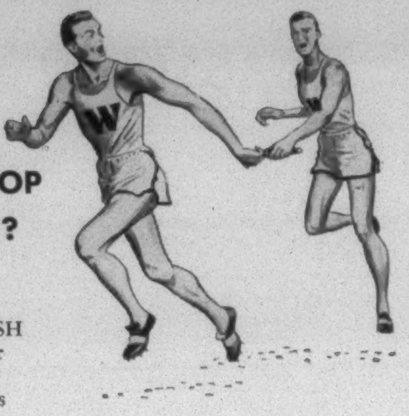

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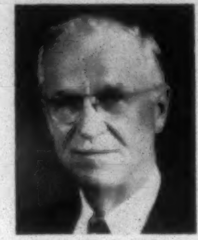
PERSONAL NEWS



Jesse W. Stribling

Jesse W. Stribling has been named sales manager of the domestic textile machinery division of Universal Winding Co., of Providence, R. I. Graduate of Clemson College with a B. S. degree in textile engineering, Mr. Stribling's entire business career has been directly connected with the textile industry. After six years' practical experience in Southern spinning and weaving mills, he entered the sales department at Universal and in 1925 opened its Atlanta, Ga., office. Except for two years during World War II, he has had charge of the Atlanta office since its opening. In his new post, he will be responsible for the domestic textile machinery division's activities in both the U. S. and Canada.

Charles H. Burns has been named corporate controller of Fulton Bag & Cotton Mills, Atlanta, Ga., as a result of an expansion in the firm's controller department. Warren W. Danner of Columbus, Ga., is controller of the textile division with headquarters in Atlanta, and W. Don Hathaway controller of the bag division with headquarters in New Orleans, La. Mr. Burns has been with Fulton four years.

Aaron C. Groce, formerly with Lyman (S. C.) Printing & Finishing Co., has joined Southern States Chemical Co., Greenville, S. C., as a sales representative. He succeeds Richard M. Jones who has been promoted to sales manager of the firm's Atlanta headquarters. Mr. Groce will call on finishing plants in western North Carolina and most of South Carolina.

Jack Holland has been named night superintendent of Borden Mills Inc., Kingsport, Tenn. Mr. Holland is a graduate of Clemson College with a B. S. degree in textile engineering. Prior to joining Borden, he was associated with United Merchants & Manufacturers Inc. in South America as supervisor of quality and special projects.

William T. Galey III, vice-president in charge of production for Aberfoyle Mfg. Co., Philadelphia, Pa., has been elected treasurer of the company. Aubrey A. Hobbs, a member of the firm's Southern operations and a graduate of Georgia Tech, has been named to succeed Mr. Galey in the manufacturing post. His title will be that of general manager.

Charles W. Carvin Jr. has been appointed assistant nylon sales manager of The Chemstrand Corp. Mr. Carvin joined Chemstrand in March 1955 in a sales capacity. Prior to that he was vice-president in charge of merchandising and selling for Charles W. Carvin Co. Inc., president of the Borvin Co., and a partner in United Fabrics Co. He will make his headquarters in Chemstrand's New York sales office. . . . Donald W. Bedell has been appointed assistant sales manager of the company's Acrilan sales division. Prior to joining Chemstrand in May 1955 as a sales specialist in the Acrilan sales division, Mr. Bedell was a representative for Meinhard & Co., and had been assistant to the executive vice-president of Crompton-Richmond Co. He was also assistant to the sales manager of Draper Bros. Co. He will continue to be located at the New York office of the Acrilan sales division. . . . John P. Dougherty has joined the company as a senior sales specialist and has been assigned to the Acrilan sales group in New York. Prior to joining Chemstrand, Mr. Dougherty served as military and civilian chief of the general testing laboratories, U. S. Army Quartermaster Corps in Philadelphia, Pa. He was previously associated with American Viscose Corp. and Delta Dyeing & Finishing Co. He is a textile engineering graduate of the Philadelphia Textile Institute.

B. R. Stratton

B. R. Stratton has been appointed manager of the Atlanta, Ga., district sales office of Cutler-Hammer Inc., Milwaukee, Wis., manufacturer of motor control equipment and allied electrical apparatus. Mr. Stratton, former branch manager at Tulsa, Okla., has been with the firm in an engineering sales capacity since 1936.

Jack Harrison, a member of the sales engineering department of The Fletcher Works, Philadelphia, Pa., during the past four years, has been assigned to direct sales for the firm in Pennsylvania and the South. His appointment to direct sales is part of a realignment and streamlining of the firm's sales operation. Fletcher manufactures narrow fabrics looms, centrifugals and throwing equipment.

At a special Sept. 27 convocation in observance of the Perkin Centennial, Lowell (Mass.) Technological Institute will present honorary doctor of science degrees to the following: Sidney M. Edelstein, president, Dexter Chemical Corp.; Fred J. Emmerich, president, Allied Chemical & Dye Corp.; Dr. August Merz, Calco Chemical Division, American Cyanamid Co.; and Dr. H. F. Mark, director, Polymer Research Institute, Polytechnic Institute of Brooklyn, N. Y. Lowell Tech is participating in the international observance next month of the 100th anniversary of the discovery of the first synthetic dye by Sir William Henry Perkin. Sir William visited the Lowell Tech campus 50 years ago as a guest of Prof. Louis A. Olney, then head of Lowell Tech's course in textile chemistry and dyeing, and founder of the American Association of Textile Chemists & Colorists. As part of the observance, one of Lowell Tech's newest campus buildings will be dedicated to Professor Olney.

Philip Cunningham Jr. has joined the technical service department of the Glyco Products Co. Inc., New York City. Mr. Cunningham, formerly with the Waldrich Co. as assistant to the production manager in textile finishing operations, will service plants in southern Virginia, North and South Carolina, Georgia, Alabama, Mississippi and Tennessee. His last position was with the Cravenette Co. as Southern technical representative on special textile chemicals.

V. J. Dionne has joined the merchandising division of Industrial Rayon Corp. Formerly with Virginia-Carolina Chemical Corp. where his responsibilities included market development and technical service work in connection with the use of Vicara fiber for woven fabrics, Mr. Dionne will be primarily concerned with market development and fabric creation activities in his new post. He will be concerned with the application of Industrial Rayon's filament rayon products, with initial emphasis on apparel fabrics and drapery and upholstery fabrics.

Arthur E. Young, assistant manager of the plastics department, The Dow Chemical Co., has been named manager of the company's new textile fibers department. Mr. Young for the past eight months has been co-ordinating the Dow team that developed Zefran staple fiber through pilot plant production.

OBITUARIES

Jesse Dobson Long, 68, retired assistant treasurer of the P. H. Hanes Knitting Co., Winston-Salem, N. C., died Aug. 4. Mr. Long retired at the end of last year. He is survived by his widow, a daughter and a son.

William H. Whitcomb, for 26 years secretary of Committee D-13 on Textiles for the American Society for Testing Materials, died Aug. 9 in Cranston, R. I. Mr. Whitcomb retired in 1948 from the faculty of the Rhode Island School of Design. Prior to that he had been with Scott Testers Inc. in Providence, R. I., and head of the chemistry department at Miami University, Oxford, O. Surviving are his widow and a daughter.

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Textile Shops, The 34
Textile Specialty Co. —
Textube Corp. 17
Thomaston Mills 83
Trust Co. of Georgia 71
Turner & Chapman 98

—U—

U. S. Bobbin & Shuttle Co. 27
U. S. Ring Traveler Co. —
Universal Winding Co. —
Uster Corp. —

—V—

Valentine Co., J. W. 97
Veeder-Root, Inc. Back Cover
Victor Ring Traveler Co. —

—W—

WAK Industries —
Watson & Desmond —
Watson-Williams Mfg. Co. —
West Point Foundry & Machine Co. —
Westvaco Mineral Products Div. —
White Bearings Co. 81
Whitin Machine Works 4 and 5
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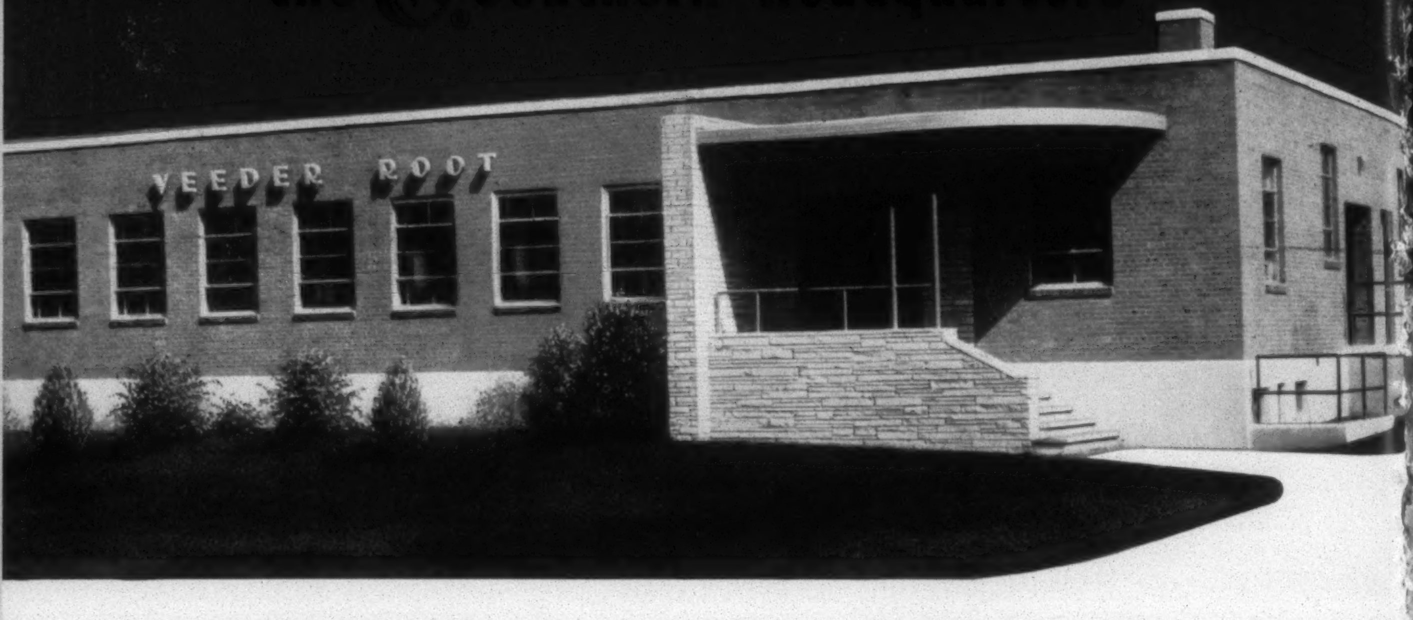

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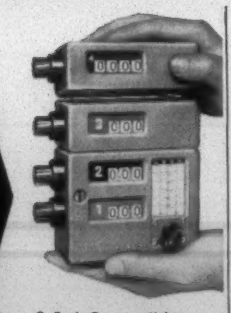
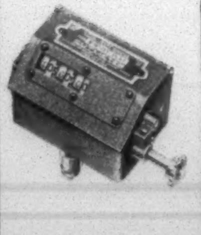

2-3-4 Convertible Counters for looms, frames, knitting machines, etc.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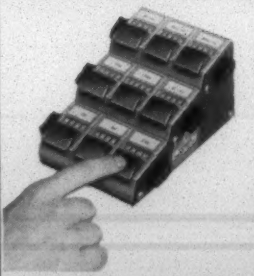
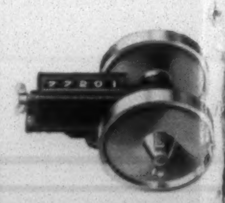

Vary-Tally Multiple Unit Reset Counters for inventory, inspection, and 1,001 other hand-counting jobs.


Double-Wheel Linear Counter for indicating lengths in feet, yards, etc.

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